

# Sense of Humour and teacher-student relationships in school-age children

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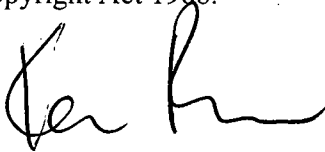
Tasmania

February 2005

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## ABSTRACT

This study investigated the relationship between dimensions of Sense of Humour in school-age children and their preferred teachers, with a focus on providing teachers with a basis for selecting appropriate humour for specific students.

An instrument and process for measuring dimensions of Sense of Humour in school-age children, based on the Multidimensional Sense of Humor Scale of Thorson and Powell (1993a), was developed, piloted and validated. Norms were derived from several groups of students across the upper primary to senior secondary age range ( $N=722$ ), using a factor analysis approach. Using this instrument, multidimensional SOH (Sense of Humour) profiles of school-age children ( $N=420$ ) and their preferred teachers were measured. The relationship between these dimensions for students and their preferred teachers were subjected to correlational analysis, to determine how SOH may contribute to the selection of preferred teacher by individual students and hence the aspects of sense of humour that individual students see as desirable in teachers.

Research on friendship formation suggested that the humour profiles of students would be similar to that of their preferred teachers, dimension by dimension. This was shown not to be the case: the relationships were not, in general, simple similarity relationships between dimensions, but a set of associations, in several cases between different dimensions.

While there are many other factors that contribute to the choice of a preferred teacher, Sense of Humour was found to be of higher importance for female students than for males: the dimension Personal Use of Humour in female students was associated with

Personal Use of Humour in preferred teachers, and a similar relationship held for Social Use of Humour. The dimension Production of Humour in male teachers was negatively associated with three of the five dimensions of humour in female students. This confirms that, from a student's perspective, teachers dealing with female students who exhibit a strong sense of humour are best advised not to focus on being producers of humour, but rather should encourage and manage other sources of humour.

The developed instrument is presented as a valuable tool for teachers, and has proven efficient and workable in deriving the SOH profiles of large numbers of students. The findings are highly relevant to teachers in general, but have particularly strong implications for teachers of female students, where humour has the potential to create significant negative as well as positive outcomes. The study also provides further explanation for the mixed results on the impact of humour on learning obtained by previous researchers, and provides additional tools for the analysis of this impact. Limitations of the study and suggestions for further research are given.



## ACKNOWLEDGEMENTS

The author would like to thank his supervisor Assoc Professor Carey Denholm, for his advice, support, dedication and tolerance. His assistance has been invaluable and much appreciated.

Thanks are also extended to the Principals, staff and students of the schools involved in this study. Their commitment to assisting the research process has been very highly regarded, as without this level of assistance the study would have been difficult or impossible to complete.

The author also thanks the Department of Education, Tasmania: the agreement by the DoE to allow this study to be conducted in some of its schools indicates its desire to support original research in real settings.

Finally the author would also like to thank his family for their tolerance over a lengthy period of time.

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## 1.0 INTRODUCTION

### 1.1 Why Humour?

Education is a serious endeavour which profoundly influences the lives of its recipients.

Humour is an important part of life in general and education in particular, and there is value in understanding its role within the learning process. Investigating humour and its place in the educative process may at first glance appear to be a frivolous undertaking. However, research into the role of humour in education can help establish its value and utility.

The role of humour in education is acknowledged by many teachers as a significant tool in designing and providing instruction, behaviour management, personally coping with stress and in maintaining enthusiasm in a demanding profession. Many teachers see their use of humour as emerging from their personality and experience rather than from any formal or well-defined understanding of humour processes. This view appears to be the result of several factors: humour theory is not well-represented in educational publications, its level of recognition amongst educators as a formal area of study is not high and, to some extent, education has seen itself as aligned at the work end of a work-play continuum (with humour aligned at the play end). The language used to describe children's actions sometimes links humour directly with anti-social or ignorant behaviour, as in "don't try to be funny with me", "stop joking around", "do you find this sort of thing funny?", "this is just a joke" and similar comments.

Anecdotal evidence suggests that humour plays a significant role in the dynamics of the classroom and has an influence on the quality and nature of teacher/student and student/student relationships. Investigating the classroom-interaction aspect of humour would allow some quantifiable and demonstrable statements to be made about the role of



humour in classroom relationships.

The following introduction endeavours to clarify the importance of humour as a part of life in general and its particular roles in education.

## 1.2 Definitions and Concepts

A range of definitions of humour exist, with some seeing it as a property of materials (as in “a humorous book”) or events (“Mikado” was a humorous performance) and others seeing it as a trait (“she has a good sense of humour”) or a state (“that film put me in a humorous mood”) of individuals or groups. Some conceptualise humour as an entity with its own existence, whereas others see humour as the response set (mirth, laughter, smiling etc.) which accompanies certain stimuli.

For the purposes of this study, the view of McGhee (1979) has provided strong guidance, and humour has been understood as being a form of intellectual play; an enjoyable mental or psychological experience of discovering, interpreting and appreciating ludicrous or absurdly incongruous events or situations. This is not to deny the emotional components of humour, nor the social environments which influence the emergence and context of humour, nor the physical manifestations of reactions to humour. The use of a simple operational definition of humour is simply to isolate the nucleus of humour, in order not to confuse it with some of its moderators, effects and manifestations. In this context, sense of humour is seen as a character or personality trait. In educational parlance, it is probably a similar construct to preferred learning style, in that individuals will have a tendency to behave in specific ways which characterise their sense of humour, but under other circumstances they can operate outside of this tendency.

It should be noted that manifestations and individual members of the humour response set are not the same as humour itself; measuring laughter, for example, is not the same as measuring humour, but may provide valuable evidence of some aspects of humour. In the same way, the humorous reactions which children produce in adults through their naivety, innocence, mimicry or attempts to master the adult world are not viewed as children's humour in this context: the children are unaware of the humour they produce and do not themselves perceive it (other than through a reaction to the adult response).

The value of sense of humour as a personal characteristic is well-accepted in most societies, and emerges in formal studies. For example, the Employability Skills for the Future report (Commonwealth of Australia, 2002), undertaken to determine the skills required to gain employment and progress within an enterprise, identified sense of humour as a personal attribute for employability.

The current study is confined to dealing with those characteristics and properties of humour that have the potential to impact on teaching and learning in children in the compulsory years of schooling (typically 5-17 years of age). There are some natural by-products of this process which are outside of the area of this research: for example, humour which impacts on teaching and learning is also likely to impact on levels of teacher stress and job satisfaction. It is possible however that this study may inform subsequent investigation of these areas, by providing some baseline data on the links between humour and quality of classroom interaction.

The quality of interaction between student and teacher can be evaluated in a range of ways. Some measures are teacher-based, while others are observational. However, from the student end of the interaction, one important component is how well the student believes (and self-

reports) they “get on” with the teacher. Such an indicator may not necessarily concur with measures such as frequency of conversation, level of attention or teacher satisfaction levels, but serves as a direct indicator of student perception of the situation and identifies the student’s preferred teachers.

The student’s perception of the quality of relationship represents a summary of the various diverse interactions between teacher and student. For this reason, individual students’ self-report of how well they feel they get on with a teacher was taken to be a suitable measure of the construct in question.

### 1.3 General Research Questions

The overall aim of this study is to examine how the similarity or otherwise of student and teacher sense of humour profiles contribute to the quality of relationship between student and teacher.

The overall aim was investigated through four research questions:

Research Question 1 (RQ1):

To what extent does a self-report measure of a child’s sense of humour agree with measures of the child’s sense of humour made by peers and adults?

Research Question 2 (RQ2):

How can teachers efficiently measure and diagrammatically represent Sense of Humour profiles in such a way that comparisons and contrasts can be readily made?

Research Question 3 (RQ3):

How can we readily quantify similarities and differences between two Sense of Humour profiles?

Research Question 4 (RQ4):

What are the relationships between the various components of student and teacher Sense of Humour profiles that are associated with a positive student-teacher relationship?

The study therefore primarily examines the relationship between student and preferred teacher in relation to the similarities and differences of their sense of humour profiles.

## 2.0 LITERATURE REVIEW

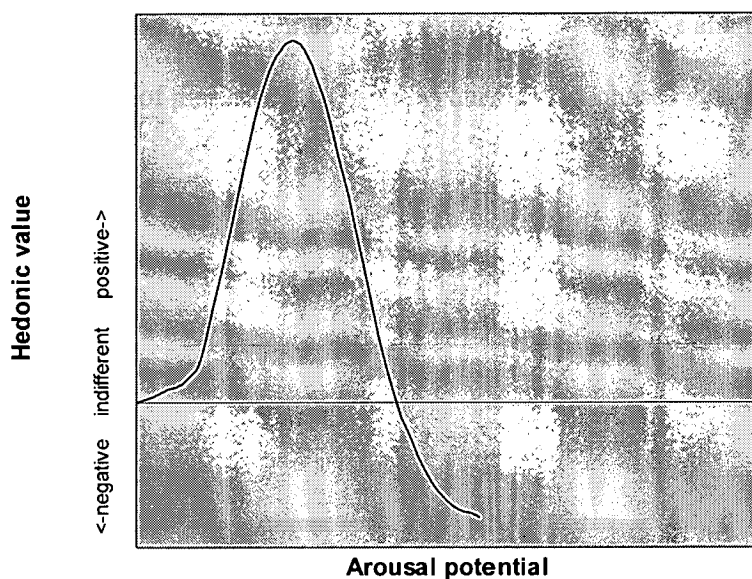
### 2.1 Models and Theories of Humour

Understanding and quantifying the construct of sense of humour first requires an understanding and theoretical underpinning for humour itself. Even a definition is not straightforward, a situation that reflects the complexity of both humour and the responses it elicits. Selected major theories are presented here to provide a framework for the study. It is appropriate to point out that several of these theories are consistent with each other, and that some are partial elaborations of others.

#### 2.1.1 Arousal and Arousal-Reduction theories

Theories or understandings of humour based on changes in arousal level include those proposed by Freud (1905/1976) in which humorous responses were seen as a consequence of the reduction in arousal level that could be achieved in a humorous situation but which would otherwise have been suppressed for internal or external reasons. From Freud's viewpoint, the range of intensity of responses to different humorous stimuli are indicative of the magnitude of suppressed activity related to the stimuli; varying from person to person and between stimuli.

Berlyne (1972) proposed a variation of the Wundt curve which represents the relationship between the dependent variable "hedonic value" (a term covering both pleasure, as evidenced by behaviour, and reward value, manifested as reinforcement of learned behaviour) and the independent variable "arousal potential" (Figure 1).



*Figure 1. Relationship between Hedonic Value and arousal potential<sup>1</sup>.*

<sup>1</sup> After Berlyne, 1972.

Berlyne contends that this relationship is such that as arousal increases, so does hedonic value until a threshold is reached, at which point the hedonic value declines and in fact becomes negative. In this region, a reduction in arousal gives rise to an increase in hedonic value. Thus there are two conditions under which hedonic value increases (a situation of pleasure): an increase in arousal, for moderate levels of arousal, or a reduction in arousal under conditions beyond the turning point. The sequence of a rise followed by a fall in arousal level has been termed the “arousal jag” by Berlyne and the corresponding combination of pleasurable sensations during both phases lead us to refer to an “arousal boost-jag”.

This model is consistent with (and supported by) empirical evidence provided by Shultz (1972) who shows that both perception of joke incongruity and resolution or explanation of the incongruity are required in order for a child subject to appreciate a humorous item.

While this model appears to provide some explanation of humorous behaviour and also goes some way towards rationalizing the appearance of laughter as a relief behaviour after periods of brief extreme stress, it is not completely supported empirically. Berlyne (in McGhee, 1971, p. 331) draws on considerable evidence that the sequence of increase of arousal followed by decrease does in fact lead to a reward value for the subject. However, the premise that the magnitude of humour elicited by a humorous incident should correlate with the magnitude of the drop in arousal (measured in physiological terms) lacks empirical support (Wyer & Collins, 1992, p. 664).

While Berlyne's theory provides a framework for understanding humour in situations where an increase in arousal is evident prior to a decrease (such as in the "build-up" form of jokes and riddles and the "cringe" response which is employed in comic performances such as "Fawlty Towers"), it is limited in its capacity to explain the humorous responses obtained in situations where there has not been an increase in arousal, such as spontaneous humour resulting from puns and some slapstick comedy. For this theory to be complete, every humorous situation should have an identifiable mechanism for raising arousal and another for lowering or moderating it. As such, Berlyne's theory is best considered as a partial theory.

### 2.1.2 Incongruity/resolution and surprise theories

Early theories and philosophies of humour identified incongruity as a common feature of

much humour. Keith-Spiegel (1972, pp. 7-10) provides a comprehensive list of the various elaborations on this idea produced by some 39 theorists and philosophers between the 18th Century and World War 2. These elaborations vary only in the perceived role or nature of the required incongruity: this role or nature could include, amongst other things,

- a strained expectation vanishing to nothing,
- a combined disharmonious situation with an assurance that all is well,
- a shocking idea combined with a mild one,
- the perception of a situation in two habitually incompatible contexts,
- joy and shock,
- surprise accompanied by an inducement to play,
- the transference of thought from the great to the small (a descending incongruity).

The commonality between these is apparent: each involves two mutually incongruous situations. The humour stimulus involves some type of absurdity, some twist of normality or element of unexpectedness or surprise that many researchers believed was the core of humour. While the recognition of incongruity has not been displaced, it became clear that incongruity on its own is insufficient to produce humour.

A variation on this theme is obtained by perceiving humour not in terms of the incongruity in the stimulus but in terms of an incongruity in emotions felt by the observer. Various terms such as ambivalence, conflict-mixture or oscillation theories, these approaches are based on the idea of opposing emotions. Thus, we have views such as that of Monroe (1951, p. 210) that laughter arises “whenever....we find opposite emotions struggling within us for mastery.”



Within this category, Keith-Spiegel lists combinations of opposing emotions, arising from separate theorists up until around 1940. These included:

- pleasure and pain from envy and malice,
- joy and sorrow (this was slightly more complex, as it involved the conflicting physical movements involved in expressing these),
- joy and hate or shock,
- love modified by hate,
- mania and depression,
- chaos and seriousness,
- conflict arising from blocking an instinctive drive.

Again, a common theme of incongruity of emotion exists in these combinations.

This class of theories does not, however, explain why we also may at times generate crying, rage, confusion and various other responses to such an incongruity in emotions. That is, these theories cannot be considered predictive or complete.

A final variant are the configurational theories, which concur with the idea that humour stimuli involve incongruities, but maintain that the humour arises not from the identification of the incongruity, but at its resolution (that is, when the individual experiences an insight which resolves the apparent incongruity). To some extent the identification of the incongruity and its resolution may appear almost identical; for example, consider the one-liner from Groucho Marx (Leach, 1996, p. 227).

She got her good looks from her father. He's a plastic surgeon.

General incongruity theory would suggest humour is generated as we recognise the two alternative interpretations (getting looks as an hereditary process, and getting looks as a surgical procedure). That is, we see that the same stem has two alternative explanations.

Configurational theories would hold that humour arises as follows:

We interpret the first sentence in its colloquial sense (that is, she has good looks for some hereditary reason). We expect the second sentence to bear this out, perhaps by telling us the father is, say, a model, or Mr Universe, or some other type of person believed to have good looks. When it doesn't ("being good-looking" is not a stereotype normally ascribed to plastic surgeons) we perceive an incongruity. The humour comes when we resolve this.

The difference is subtle, and in some ways a matter of perspective. Whether the cognitive task is one of seeing two interpretations or of solving a problem is not readily discernible without access to metacognitive tools. It may even be the case that it varies between individuals: just as individuals derive differing amounts of pleasure from sources such as music, mathematics or physical activity, habitual problem-solvers may derive humour from resolution, while creative individuals may derive humour from seeing a situation in multiple alternative ways.

There are clear links between these collective incongruity theories and the arousal theories, if one considers the cognitive processes as being a component of arousal. Recent discussion within academic humour communities (Attardo, Hall, Lyttle & Russell, 2002) has probed and extended the theoretical framework around incongruity theory. The online debate (largely unresolved) discusses alternative perspectives on the source of humour and the roles of incongruity and resolution in that process. While the identification of the psychological or neurological source of the humour response may have to await more powerful analytical

tools, the alternative theoretical views at least agree that somewhere in this process, the existence of an incongruity and its resolution may produce a humour response. It may be that the apparently conflicting views are both correct, and that the mechanism of humour may sometimes be in accordance with one theory and at other times with the other.

### 2.1.3 Mastery, Superiority, Disparagement and Aggression theories

To some extent the sequence from mastery, superiority, disparagement and aggression is a logical ordering, so the elements of this sequence have been considered as falling into the same category, even though differences between them are evident.

#### 2.1.3.1 *Mastery*

Wolfenstein (1954), using a Freudian approach, argued that as children gradually acquire awareness of the social restrictions on aggressive and sexual impulses, they use joking responses as an indirect (and more socially accepted) way of expressing such impulses. In effect humour provides a mechanism for these impulses to pass through the internal (moral and learned control processes) and external (parental, social and legal) filters of acceptability. The benefit to the child is one of relieving stress and anxiety. While this conclusion is derived from observation of children, it may remain as one role and mechanism for humour in adults.

Grotjahn (1967, in McGhee, 1971) uses evidence that children begin to demonstrate a sense of humour once they start to master their own body movements. He contends that, having mastered an action, they begin to see the unsuccessful attempts of others to do the same as humorous, emphasizing their own superiority. Mastery of a task or skill is thus a condition for humour to be generated by flawed attempts to demonstrate that skill. It may also be a

significant contributor to the pleasure of play, supporting the presence of laughter in the physical play of children.

The conjecture appears to remain valid in the adult world; mechanics laugh at the feeble attempts of others to fix their car, sportspersons and politicians laugh at the opposition when they demonstrate a lower skill level, and nurses laugh at doctors' attempts to perform the routine tasks which nurses perform regularly.

Grotjahn's conjecture also translates into cognitive tasks: the humour of, for example, faulty reasoning is only available to those who have mastery of (or, perhaps, believe they have mastery of) the process of logical thought. The theory holds for other forms of mastery. As an example, McGhee and Grodzitsky (1973) examined children's perception of the funniness of cartoons involving gender-role stereotypical behaviours, and found that the perception was enhanced by the child's level of mastery over their own sex-role identity.

#### 2.1.3.2 *Superiority*

Conceptualizing humour (or at least laughter) as being based on motives of superiority or derision was evident in the philosophical writings of Aristotle, and a view that comic objects were mean, ugly or unseemly was evident in a range of works through the Renaissance and was formalized by Thomas Hobbes in the *Leviathan* Part I Chapter VI (cited in Eastman, 1972, pp.138-139) and in *Human Nature* Part 1 Chapter IX. Formal theories have emerged and continue to demonstrate the validity of the concept that humour is based in some way on a notion of superiority.

Superiority in a social sense is by definition affected by the social context in which it occurs. We should expect, then, that humour based on social superiority will vary between cultures

with varying social structures. This is evident in the difficulties encountered when commercial comedy such as television series and stand-up comedy shows are transported from one culture to another. One example is the reaction of young Australian children to comedy television programmes produced in the United Kingdom in the 1970's. The social class structure from which these derived is not one with which these children are familiar, and consequently it takes some time for the children to decipher the class expectations and hence appreciate the nature of the humour. As one case, the venerable television series "Dad's Army" contains some humour which relies on notions of rank (both military and social) and respect which are not automatically obvious to a young child. Thus an Australian child is unlikely to see a practical joke played on a person of high social status as being any different to the same prank played on a lower-class individual, whereas the social background (and scriptwriters) behind "Dad's Army" at the time it was produced (and especially in the era in which it was set, wartime Britain) would have seen the first situation as far more humorous.

#### *2.1.3.3 Disparagement and Aggression*

Lorenz (1963/1968) sees some primitive humour as based on aggression and conceptualizes the situation of one group laughing at another as being a redirected appeasement ceremony. He sees laughter as the overt and physical expression of humour as "an instinctive behaviour pattern ... derived from aggressive behaviour... retaining some of its primal motivation" (Lorenz, 1963/1968, p. 253). To Lorenz, the physical manifestations of humour may be seen as a mechanism for discharging aggressive drives. He contends that "shared laughter not only directs aggression but also produces a feeling of social unity" (p. 153).

Koestler (1964, p. 95) sees humour as a process which involves "perceiving a situation or

event in two habitually incompatible associative contexts". This, he claims, causes an abrupt transfer of train of thought from the rules and logic of one context to that of the second context. The capacity of some emotions (including self-assertive, aggressive-defensive types which are physiologically based in the sympathico-adrenal system, and which produce physical activity) to follow these rapid changes is limited as if they have some kind of inertia, and these emotions are diverted instead into laughter or other humour responses. In Koestler's view, "the more sophisticated forms of humour evoke mixed, and sometimes contradictory, feelings; but whatever the mixture it must contain one ingredient whose presence is indispensable: an impulse, however faint, of aggression or apprehension." (Koestler, 1964, p. 52).

Berkowitz (1970) contends that some humour is intended to demean an individual or group, at the same time raising the instigator's self-esteem. The victim of such a humorous attack is thus the recipient of a form of aggression. Gruner (1997), who remains a long-term supporter of superiority or aggression theory, provides a reasonably convincing case for it by extending the framework to include the concept of a game or contest in which the incentive and rewards of winning (or metaphorically beating others) provide part of the mechanism of humour. He sees this game (which is a refined form of aggression) as a consequence of Man's nature as a curious, competitive being with innate and underlying needs of success and superiority. While the comprehensiveness of this theory may remain a matter of debate, Gruner adds some detail to the necessary conditions for humour, adding the competition element. He successfully argues that mere incongruity or surprise are not sufficient for humour, and suggests that the addition of the game element does provide a more complete set of conditions (that sometimes at least, laughter=winning).

The primary argument against Gruner's theory is the contention that there is a category of humour (variously referred to as innocent or non-hostile humour) in which no superiority or aggression is involved: Gruner devotes a chapter of his book to exposing such humour as either having a superiority/aggression base, relying on the revelation of others' stupidity (which is possibly a way of fulfilling a need for superiority) or not being humour at all.

Suls (1976) cites several studies which provide evidence to support the view that the humour potential of disparaging humour depends partly on the degree of favourableness felt towards the entity being disparaged. This suggests that we should derive maximal humour when our friends demonstrate superiority over our enemies, and conversely we should find less humour in situations where our enemies humiliate or disparage our friends. More recently, Wyer and Collins (1992, p. 665) cite evidence which leads them to present what appears to be a contradictory view: they claim that "Humour is more apt to be elicited by the misfortunes of people who are generally regarded as socially undesirable than by the misfortunes of people who are socially esteemed". This apparent contradiction can be resolved by examining the role of superiority: in the case of laughing at afflicted persons or ethnic groups, superiority is being asserted by the individual over these groups. In laughing at a failing of a political leader or senior public figure, an individual is in effect claiming that the accepted superiority of the person who is the target of humour is incorrect, and that in fact the individual is superior to the target figure.

Superiority theories are capable of describing some features and phenomena associated with humour, but there, arguably, some situations which are not covered. Wyer and Collins (1992) observe that humour resulting from an individual's own failings cannot be explained under this model (although it may be argued that this involves a human capacity to see oneself as

parts, some of which have failings that the other parts may disparage). Similarly, the humour response to stimuli such as absurdity is not convincingly explained by this theory (other than as an assertion of mastery of the norms of the real world). Regardless, superiority theories remains a useful and workable theoretical base.

#### 2.1.4 Arousal-safety models

The previous models provide a way of accounting for humour as a product of incongruity. However, they are unable to explain why incongruity may also give rise to other cognitive and emotional responses such as fear, curiosity or dismissal. Rothbart (1973) proposed a model which provides some conditions which separate laughter-producing situations from those which produce fear or distress.

Rothbart's theory holds that when an individual faces a sudden intense or incongruous stimulus, they make a series of judgements, the outcomes of which determine the response.

These are:

- is the stimulus dangerous?
- is the stimulus evaluated as a serious challenge to the person's knowledge or is it seen a playful or inconsequential?
- can the incongruity be resolved? (Rothbart, 1976, p. 38)

In Rothbart's model, extremely incongruous, sudden, intense or dangerous stimuli are likely to lead to distress (emotionally) and avoidance or aggression (behaviourally). In a safe or non-serious setting, incongruities may lead to pleasure (emotionally) and approach.

Achievement of resolution of the incongruity may produce smiling and laughter, either as a



joking reaction or as an expression of achievement.

Examples cited by Rothbart (1973, p. 40) include the reactions of very young children, who laugh at a range of incongruous stimuli and stimuli eliciting surprise, provided the situation is sufficiently safe. This in turn depends on the familiarity or safeness of the people involved, the familiarity of the situation itself, the child's state, and individual levels of reactivity to stimuli. If these safety conditions are exceeded, the response can be fear. Rothbart cites the case of two studies in which the same stimulus was used: in one laughter was evoked and in the other fear (Rothbart, 1973, p. 40). Similar reactions are observed in children when larger animals such as dogs make unexpected movements or noises: this can act as a fear or laughter stimulus.

The model proposed by Rothbart (1976, p.39) can be described schematically (Appendix B, Figure 2).

#### 2.1.5 Cognitive and information processing theories

Cognitive theories of humour attempt to explain aspects of humour in terms of human cognition, which makes them of particular interest to educators dealing with school-age children. Developmental features of cognitive ability are core to much of education, and thus interpreting humour development in terms of cognitive development appears attractive.

There is a variety of reasons why the relationship between humour and cognition might be of use to teachers, including the use of humour as an indicator of general cognitive development, the knowledge of student cognitive development to select relevant humour styles, and the ability to identify reasons for failure or success of certain humour stimuli. As cognitive models have developmental implications when applied to children, these models

are dealt with separately.

### 2.1.6 Psychoanalytic theory: Freud

The works of Freud (1905/1976) provides a framework for explaining wit and humour within the wider framework of Freudian psychology. These works give a theoretical base for the mechanism of humour and also the motive and purpose, as well as their relation to dreams and the unconscious. Freud's analysis of general characteristics of jokes (verbal) leads to a categorization of "techniques" which has value in terms of the overlap and consistency with other theories. Although it is has limited use as an individual theory, Freud's work represents one of the more significant early works on humour and consequently has influenced later works to varying extents.

#### 2.1.6.1 *Analytic categorization of jokes (Freud, 1905/1976)*

Firstly Freud considers that one characteristic of jokes lay in their form of expression, as below:

Condensation (where humour is a mechanism for economizing on intellectual effort)

- formation of a composite word
- with modification.

Multiple use of the same material

- as a whole and in parts (e.g., the Seafood diet: see food and eat it)
- in a different order (e.g., "Put not your trust in money, but your money in trust")
- with slight modification (e.g. "I'd rather have a bottle in front o' me than a frontal lobotomy")
- of the same words .

## Double meaning

- meaning of a name and a thing denoted by that name (eg “Blair wins after Major disappointment”)
- metaphorical and literal meanings
- double meaning proper “Yacht disaster; all crew lost except one, who had arm severed, but continued sailing single-handed”
- double entendre e.g., “Lewinsky reluctant to work under President again.”
- double meaning with an allusion.

## Displacement

- Absurdity
- Faulty or misleading logic or reasoning
- Unification
- Representation by the opposite
- Overstatement
- Indirect representation.
- Analogy.

After this analytic approach, Freud re-considers jokes in terms of purpose, leading initially to identification of innocent jokes and tendentious jokes. Tendentious humour, notably smut or obscene humour, is explained as a form of sexual overture or substitute for sexual aggression. Freud concludes that tendentious jokes “make possible the satisfaction of an instinct (whether lustful or hostile) in the face of an obstacle that stands in the way. They circumvent this obstacle and in that way draw pleasure from a source that the obstacle had made inaccessible” (Freud, 1976/1905, p. 144). This obstacle can be internal (e.g., moral or philosophical objections, grief) or external (e.g., legal or social barriers).

Having dissected jokes in a search for their characteristics, Freud then attempts to identify how these structures lead to the outcomes identified as humour. He identifies the “economy in expenditure on inhibition or suppression” (Freud, 1976/1905, p. 167) as one source of

pleasure, and extends this idea to a general economy of psychical expenditure. Freud also sees the process of remembering and recognizing as a source of pleasure. He sees the power of absurdity or nonsense humour category as being related to the enjoyment derived from the “experiment by play” which is available in childhood but repressed socially in later life. Through nonsense one can escape the compulsion of criticism. Freud offers no explanation as to why this should evoke a humour response rather than one of mere pleasure.

To draw these ideas together: Freud sees the pleasure in jokes in terms of psychical expenditure, either through the economizing of psychical expenditure, as in the verbal, or through relief of psychical expenditure associated with maintaining social constraints and the bonds of intellectual upbringing, as is evident in the humour of absurdity.

#### 2.1.7 Linguistic-semantic theory (of verbal humour)

Considerable research has been undertaken in the linguistic structure of verbal humour. Much of the research has been based around the incongruity-resolution approach, with the verbal component providing opportunity for incongruity or ambiguity at several linguistic levels; phonological, lexical, surface-structure, and deep-structure. Work by Shultz and co-workers (Schultz, 1974; Shultz & Horibe, 1974; Schultz & Scott, 1974) provides empirical support for both an incongruity-resolution theory of humour and its application in understanding how developmental factors impact on creation, perception and appreciation of humour in children.

Raskin's (1985) theory of verbal humour, and its subsequent refinements, contends that verbal humour arises when a text is compatible with two semantic scripts which are in some way opposed, in a number of specific ways: obscenity/nonobscenity, violence/nonviolence,

money/no money, death/life, bad/good etc. This theory clearly has a developmental implication for school-age children, who vary in their capacity to interpret verbal material in the ways available to adults. While this theory can directly explain the humorous nature of verbal material to adults, the developmentally-driven cognitive variables in children's comprehension of verbal material add another layer to the analysis. In addition, at least some of Raskin's pairs of opposites involve substantial moral judgement, a capacity strongly influenced by moral development which varies widely within a child population.

At the time of writing (2004) studies of the application of script-based linguistic theories of humour to a children's appreciation of humour appear not to have been undertaken, although common linguistic features of children's verbal humour have been analyzed by several researchers.

From the point of view of this study, Raskin's theory offers a means to analyze some aspects of humour stimuli. However it does not provide an approach which has been demonstrated as being directly applicable to children.

#### 2.1.8 Affective absurdity

Veatch's (1998) theory of humour is based on the concept that humour perception is a psychological state which tends to produce laughter. Veatch contends that there are three necessary and sufficient conditions for this state, namely:

Violation: the perceiver has in mind a view of the situation as constituting a violation of a subjective moral principle, that is some affective commitment of the perceiver to the way something in the situation ought to be is violated.

Normal: the perceiver has in mind a predominating view of the situation as being normal

Simultaneity: the above two understandings are present in the mind of the perceiver at the same instant in time.

In short, humour occurs when it seems that things are normal while at the same time something appears wrong. It should be noted that this places a dependence on the individual having a well-formed view of the way things ought to be, that is, it places a reliance on moral development. A high level of moral development is largely assumed in adults, particularly the adult students often used as research subjects, but is not a valid assumption for children.

A similar theory is advanced by Bainy (1993) in his Sudden Perception of Dual Values theory, which sees humour arising “when we perceive a negative value then a positive value almost simultaneously” (Bainy, 1993, p. 74), and similarities with the Arousal-Safety theory of Rothbart (1973, p. 38) are evident.

#### 2.1.9 Reversal Theory

Apter (1982) incorporated motivational and social as well as cognitive factors into a model which attempts to explain a wide range of humorous experiences as a subset of a wider theory of motivation and personality. Apter considered that a humorous experience occurs within a context which brings to it a wider set of information than is explicitly contained in the humour stimulus itself. The situation uses information which has been accumulated by the participants in the event (for example the people appreciating a joke stimulus) in the course of their life experiences. We thus assemble a construction of reality around a situation. Wyer and Collins (1992) whose own theory draws heavily on Apter’s work, give the example of the mention of the word “lawyer”: on being told that a person is a lawyer, we

assume that this individual has the attributes and characteristics of a lawyer as we believe them to be from past experience, unless told otherwise. Similarly, we interpret information from a communicator based on what we know of the communicator.

If we encounter subsequent information which does not fit our initial interpretation, we may revise some of our assumptions. It is this resolution of two apparently incongruous situations which has characterized humour in several theories. However, not all such revisions of assumptions are humorous, or we would find schools and other places of learning to be in demand as high-rating comedy venues. Apter proposes that three conditions must apply in order for such a situation to be humorous.

Non-replacement: the reinterpretation of a situation which occurs after new, incongruous information arrives should not replace the original interpretation. The new construction of reality must not replace one's perception of the apparent or purported reality that was first created (Wyer & Collins, 1992, p. 666).

Diminishment: the new perception of reality which emerges after new information is presented must in some sense be diminished in value compared to the original perception.

Motivation: humour is more likely to be produced when a subject's only purpose in processing information is to understand and enjoy it. If other goals are evident, the cognitive processing required for these may reduce the humorous effect.

This theory provides an explanation for why some things are seen as humorous and others as merely a reinterpretation or incongruity. For example we can see why the discovery of their adopted status does not generally provoke a humour response in adopted children who have been raised to believe otherwise. In several other theories, there appears to be no reason why

some incongruities evoke humour and others sadness, anger, confusion or other emotions.

While reversal theory has some limitations, it is able to deal with a range of humour-eliciting phenomena including slapstick, set jokes, and impromptu social humour.

#### 2.1.10 Comprehension-Elaboration Theory

Wyer and Collins (1992), extending Apter's approach and drawing on research in information processing and memory functioning, produced a set of eight postulates which frame a comprehension-elaboration theory.

In order to describe them, the meaning of comprehension and elaboration need to be explained. In this context, comprehension refers to the "encoding of a stimulus event in terms of previously formed concepts or schemata that its features exemplify, along with inferences about unstated features that are necessary to understand the event in the context of prior ones." Elaboration refers to the "conscious generation of inferences about features that are not captured by these initial encodings and are not necessary for the comprehension, as well as other thoughts that may be stimulated by the encodings" (Wyer & Collins, 1992, p. 670).

The eight postulates of Wyer and Collins are:

Memory. The concepts and schemata that comprise a particular domain of world knowledge (including representations of persons, events and episodes) are stored in memory at a particular location. This location is assigned a label that denotes the domain of knowledge involved (this allows for multiple storage, so knowledge about a car accident may be stored separately under labels of Car, Injury, Insurance, etc.)



Encoding. A subset of the features that compose an initial stimulus event is interpreted in terms of concepts and schemata that permit the event to be understood and its implications to be construed. When two or more alternative sets of concepts are applicable, the set that comes to mind most quickly and easily is the one that is applied.

If subjects have a specific goal in mind at the time they consider the stimulus event, the concepts and schemata they use to interpret its features are likely to be drawn from a domain of knowledge that is relevant to the goal; if not, and subjects' goals are simply to comprehend the stimulus event, the concepts and schemata they use to interpret it are likely to be drawn from a domain of knowledge that they have used most frequently or recently in the past (Higgins & Rholes, 1978, Higgins, Bargh & Lombardi, 1985; Srul & Wyer, 1979: cited in Wyer & Collins, 1992, p. 671).

Previous Stimuli. Once elements of a stimulus event have been interpreted in terms of concepts and schemata that are drawn from a given domain of knowledge, other concepts and schemata from this same domain are used to

(a) form general expectations concerning the range of concepts and knowledge that are applicable to an understanding of future events these elements and (b) interpret these events once they occur (Wyer & Collins, 1992, p. 671).

Incongruity Resolution. A stimulus event is considered to be incongruent when it cannot be interpreted in terms of concepts drawn from the same domain of knowledge that was applied to previous events involving the same referents. When these incongruities occur, subjects attempt to identify concepts and schemata in a different knowledge domain than are applicable to both the given event and others. If these concepts can be found, the events are reinterpreted in terms of them.

Pragmatic Information Processing. If the implications of receivers' initial interpretations of a communication appear to violate normative principles that govern the exchange of information in the situation in which the communication occurs, recipients will attempt to reinterpret the communication in a way that is more consistent with these principles.

Pragmatic Information Processing covers situations where the literal meaning of a phrase differs from its intended meaning, or where information is not new to the recipient. Both these cases violate normative principles of communication in, for example, an information-giving session.

Humour Elicitation. Humour is elicited only if the inferred features of one or more referents of a reinterpreted stimulus event are diminished in value or importance relative to the features that were inferred on the basis of an alternative interpretation of the event.

Comprehension Difficulty. The amount of humour that is potentially elicited as a result of reinterpreting a stimulus event is a non-monotonic (inverted-U) function of the time and effort that is required to identify and apply the concepts necessary to make this reinterpretation. That is, situations that are either very easy or very hard to reinterpret will lose humour value.

Cognitive elaboration. The amount of humour that is elicited as a result of reinterpreting a stimulus event is a monotonic function of the amount of cognitive elaboration of the event and its implications that occurs subsequent to its reinterpretation. This elaboration is directed toward the attainment of a particular processing objective that exists at the time.

If subjects' processing objective is simply to comprehend and enjoy experiencing the event, cognitive elaboration of the event will typically concern its humour-eliciting aspects, and

therefore will increase the humour elicited.

Alternatively, if the subjects' processing objective is more specific, the event is elaborated in terms of its implications for this specific objective. The effect on humour elicitation could be an increase, decrease or remain constant, depending on whether the humour-eliciting components of the reinterpretation are relevant to the attainment of this objective.

The process followed by Wyer and Collins in developing this model essentially ensures that it includes Apter's Reversal Theory as a subset, and is a more general theory. However, in attempting to "pin down" humour it raises further issues such as just what we mean or understand by "amount of humour" and how we can establish in advance internal personal variables such as an individual's processing objectives and the organization of information in memory.

At this stage, the theory has substantial descriptive and analytical power but requires additional information in order to act as predictive theory. This does not diminish its significance, and in fact it may have an additional use in working back from individual's responses to humour stimuli to determine the organization of memory and other internal characteristics or states of the individual.

## 2.2 Social Functions of Humour

Humour has a number of social functions, including acting as a coping mechanism, social lubricant and acting as a modifier of communication. Some would assert that humour actually constitutes a unique form of communication in itself.

### 2.2.1 Humour as an adaptive coping mechanism.

The capacity of humour to act as an adaptive coping mechanism is a popularly-held belief. A substantial body of literature supports the popularity of this belief, for example the study by McCrae and Costa (1986) in which adults identified the ability to perceive humour in stressful events as a highly effective coping mechanism. The advocacy of incorporating humour into psychotherapy (e.g. Cohen, 1997; Greenwald, 1977; Grossman, 1977; Killinger, 1977; Levine, 1977) further supports this view. The existence of a Humour and Health movement in various parts of the world (evidenced by organisations such as the American Association for Therapeutic Humor) is indicative of the importance placed on this coping capacity by the medical and mental health fields.

Direct research including that of Martin and Lefcourt (1983) indicates that humour can have a significant moderating effect upon the relationship between stressors (such as recent life events) and behavioural outcomes such as mood disturbance. Proposed mechanisms for the coping strategy facilitated by humour include resolving or reinterpreting the problem causing stress, aggressive confrontation of the stressor, and establishing a distance between the stressor and oneself.

In an attempt to examine this mechanism further, Abel (2002) analysed and compared the perceived stress levels of two groups of students, one with high and the other with low sense of humour. The high sense of humour group reported less stress and anxiety than the low sense of humour group, although both groups experienced similar numbers of stressful events. Abel's analysis showed that the high sense of humour group were more likely to use each of the mechanisms above (resolving, confronting, distancing).

The role of sense of humour in moderating the perceived stress that an individual experiences from a given set of stressful events is an indication that sense of humour is an important personal attribute in dealing with the world. Given the stressful events experienced by a typical school child or adolescent, and the serious consequences of failing to deal with these events, sense of humour appears to be particularly relevant to this age range.

### 2.2.2 Humour as a facilitator of communication

The contribution of humour to communication is well-recognized in most societies. From the primitive nature of the physical manifestation of humour as laughter, a vocal communication, through to the use of wit and wordplay, humour plays a part in the communication process. Depending on context, humour can act as a facilitator of communication by removing barriers, releasing tensions, compensating for or modifying reactions to outside threats. In other contexts, it can act as an irritant, an intentionally aggressive agent in the communication process, capable of inflaming and aggravating differences or mocking an opposition. In some circumstances both these functions can occur simultaneously, as may be seen in some racist humour where a contrast is thrown up with a satirical yet grudgingly friendly piece of communication.

Martineau (1972) outlined the range of roles humour can play in communication which vary according to the dimensions of structure (intragroup, intergroup internal or intergroup interaction, the groups being an ingroup of social colleagues and an outgroup of outsiders), subject of humour, (ingroup or outgroup) and humour judgment (whether the subject is judged to be disparaged or esteemed). A summary is given in Appendix C.

Martineau's work demonstrates that the result of any social humour depends critically on the

nature of the relationship between groups. The history, agreed status, power locus and so on make the prediction of the effect of humour exceedingly complex, and the impact can be either powerfully positive or seriously negative.

The role of humour in social interaction has been the focus of many studies across a range of cultures and social settings. However, almost without exception these show humour as a powerful adjunct to communication. From an educator's viewpoint humour is thus a tool with the potential to be valuable or destructive; it would seem that knowledge of how to use this tool would be a useful addition to a teacher's skillset.

## 2.3 Significance of Humour in School Teaching and Learning

### 2.3.1 Existing research

Traditionally, the dichotomy between work and play evident in the Protestant work ethic and similar world-views has tended to equate humour with negative or unwanted behaviour. In the predominantly Judeo-Christian tradition underlying Australian education systems laughter is frequently linked with misbehaviour and disrespect. The language used to describe children's behaviour sometimes links humour directly with anti-social or ignorant behaviour, as in "do you think this is just a joke?" and so on. This view of humour seems incongruous, as humour appreciation demonstrates cognitive processing of a significant order; an activity which forms a significant part of the educative process.

A considerable body of literature and research has been directed to the examination of the nature of humour in general, the individual differences which exist in responses to humour and the development of humour responses. However relatively little research has been undertaken to provide teachers with tools to understand the capacity of individuals to

respond to humorous stimuli, and to identify the individual preferences for various sorts of humour. Where humour has been formally addressed in relation to the classroom environment, the emphasis has been on the initiation of humour by teachers (an entertainer model of the teacher's role) or on the examination of humour initiated by students as a form of deviant behaviour (Pollard, 1984; Walker & Adelman 1976). The value of knowledge of the role of humour in shaping the classroom learning environment has been well-argued and researched by Ziv (1979) but few tools have emerged to allow this knowledge to be used by classroom teachers. Few teacher training courses appear to formally address humour, and reference to humour in pre-service training texts is often a brief overview.

A frequent question asked of humour in education is whether or not humour improves learning performance. The answer is of course not as simple as the question, and depends on a number of factors. A summary of research by Zillman and Bryant (1983, pp. 188-190) remains relevant. They concluded that any generalisations about the impact of humour on learning require qualification, and that individuals differ in their acceptance of humour in education.

Zillman and Bryant also noted (subject to the above limits on generalisation) that the effects of humour relevant to educational content and humour irrelevant to educational content appear to be age-related. Up to about age 15, irrelevant humour acts as a general motivator, fostering vigilance and attention. However, once children develop internal processes for motivation and attention, the irrelevant humour acts as a distractor, reducing performance. Conversely, in young children humour that is relevant to the concepts to be learned results in distortion and confusion of the content, reducing learning performance. This negative effect diminishes as information processing skills increase, until the child can readily distinguish

the humour content from the salient educational content.

While these guidelines are useful, their main relevance to the current study is to indicate that the use of humour in education can be positive or negative, depending on the nature of the humour and the student. A more detailed knowledge of the characteristics of individual students may allow more careful use of humour in relation to learning performance.

Focusing on the use of humour as a coping strategy by teachers, Woods (1983) points out that teachers use a range of humour in their attempts to relieve the tedium and frustration of a demanding role. Woods sees this as a form of social comic relief, a device to thwart fatigue.

Woods also refers to student humour, and the way in which it provides a very effective mechanism for an idea to permeate an entire group, thus providing either a powerful tool for either teacher or students. He also points out that for many students, across a range of school types and ages, the capacity to “have a laugh” is one of the prime requirements of effective teaching and learning. Woods sees humour as having a significant role in the establishment of social roles and relationships within schools, both at a student and teacher level, and as a part of the process of developing social competence, as well as functioning as a solidarity-promoting agent within groups.

Hill (1988, p.15) makes the point that “teachers are in a position to create the kind of learning atmosphere that invites healthy laughter over the humiliating humor of derision...(and) can establish classroom codes of behaviour which allow humor to become both a teaching tool and a skill which promotes the enjoyment of learning”. Similarly, the use of humour in dealing with students with particular social or educational needs has been identified by educational practitioners as a vital and well-recognized strategy which is used almost unconsciously by many successful teachers and which can be developed at a simple



level in almost any teacher (for example, Hill, 1988; Hudspith, 1994).

Clearly humour is recognised in wider society as an important and powerful tool. The prevalence of humour in our literature, in film, in entertainment, in advertising and even in politics, points to its universal influence. Yet, in schools, humour is seldom recognised in a formal sense and even more infrequently promoted as a significant part of the curriculum, of instructional practice, or of the development of children as members of society. The study on which this thesis is based provides some framework for the formal treatment of an area which has been practised informally for centuries.

It is instructive to consider the reasons why there is a relative scarcity of research on humour in school classrooms, but a significant volume of work on humour in various tertiary settings. The complex nature of humour means that school-age children may find it more challenging to reflect on and describe the processes that it involves, whereas tertiary students tend to be more skilled in this practice. Research within classroom settings requires parental permission, which is frequently problematic, whereas tertiary students are able to provide informed consent themselves. The wider knowledge and experience base of tertiary students increases their ability to report on the role of humour in their educational experience, while school-age children have to operate within their own constrained experience. Tertiary students, as young adults, are likely to have a view of humour which is less influenced by developmental factors, while the varying developmental states of school-age students add complexity to an already complex area.

Despite these constraints on the research process, it is clear that knowledge of the role of humour in a school classroom setting has wide utility and can potentially benefit a large number of learners.

### 2.3.2 Transferability of adult measures to children

#### 2.3.2.1 *Validity*

A significant body of research in humour is based on work with adults. There are several problems with transferring this work to children. Instrumentation which has been designed and psychometrically validated for adults cannot be assumed to exhibit the same characteristics when used with children. Although many items or components may be applicable, there are difficulties.

These difficulties include:

- language and literacy assumptions are not always valid for children; some terminology and expressions are not appropriate for children,
- the length and complexity of some items are excessive for children's cognitive capacity and attention span,
- methods of response may be too unwieldy,
- the concept of a "test" of any type may suggest to children that there is a single "correct" answer, or one which pleases the assessor,
- any norms or other derived properties are invalid unless re-validated for the new group (children),
- items which require social or other knowledge normally acquired as part of an adult's experience (such as political issues, classical stereotypes, sexual innuendo, slang words, etc.) are clearly invalid as items for children,

- sexual, aggressive, racist or hostile humour may be seen as socially inappropriate for children,
- the construct being assessed (sense of humour) may manifest itself differently in children than in adults.

These issues require attention in developing and using any instrumentation.

#### 2.3.2.2 *Gender differences*

Differences between humour styles attributable to gender have been identified in studies by Vitulli and Barbin (1991), Vitulli and Tyler (1988) and McGhee (1976b). These studies indicate a gradual convergence of value and role of humour with age: that is, the perceived value of humour differs between males and females at 8th grade level, but this difference reduces as adulthood is approached. McGhee (1979) has concluded that preschool-aged students did not differ in their attempts at verbal humour, which leads Vitulli and Barbin to hypothesize that stereotyping of humour roles may be a cause of the differences evident at eighth grade level.

From the point of view of this study, care is indicated in the use of instruments and theory based on adult populations if these are applied to a school-age population. All instrumentation has been derived from instruments which were trialed on representative samples of adults. At its most basic level the study requires approximately equal numbers of males and females in sampling, and recording of gender to assist in establishing the validity or otherwise of pooling data for factor analysis.

## 2.4 Research on Humour in Children

### 2.4.1 Introduction

The study of humour and development of sense of humour in children has been undertaken from a number of viewpoints. On one hand, researchers in child development have seen humour development as part of a wider developmental process which children undergo. On the other hand, humour scholars have seen the developing child as a mechanism to clarify the nature and characteristics of humor itself. Somewhere between these hands, educators, parents, entertainers and others working with children have been observing, identifying and developing practical and functional applications of humour to their role with children.

In identifying just what is meant by humour in children, some gains can be made in removing certain phenomena from consideration. In particular, one interpretation of the term “children’s humour” held in the wider community is the form of humour generated accidentally by children. This is evident in situations where children innocently create incongruities in the course of their learning or behaviour. Examples of this are widespread in the entertainment industry, where “out of the mouths of babes” is clearly a commercial success in films and in television programmes such as those of the “Funniest Home Videos” and “TV Bloopers” genre. Collections of innocent blunders such as “student howlers” (mistakes made inadvertently by students in class or examinations) along with confusion in language (such as a child introducing a School Superintendent as a School SuperNintendo) also fall into this category.

The types of humour generated above are not children’s humour unless they generate a humour response in children. In most cases, the humour is generated in adults (or possibly

older or more advanced children), and the child involved is no more experiencing humour than does a book of cartoons when a reader perceives humour in it. In essence, children's humour is concerned with situations where a child intentionally generates humour or perceives humour themselves.

#### 2.4.2 Research in children's humour

Empirical research into children's humour began to acquire prominence early in the twentieth century, with Chandler (1902) undertaking a study based on children's self-reported best jokes. Chandler found variation in humour interests with age and gender, basing her conclusions on selected jokes from children in age groups from 8 to 15 years. This study appears not to have prompted other research in the field, and was published outside of academic circles.

Freud's publication of *Der Witz und seine Beziehung zum Umbewussten* (1905) and its subsequent English translation appears to have prompted and influenced work on adult humour, but little research emerged on children's humour. The explicit reference to children in this work of Freud's (there are over 30 references to children and infantile issues in the Strachey translation, for example) and the importance of childhood experiences and repression in this and his more well-known works, would appear to form an environment conducive to research. Some significant research was undertaken in the first part of the twentieth century, although it was not as abundant as might have been expected.

Walker and Washburn (1919) used a picture-completion task (the Healy-Fernauld Picture Completion Test) as an instrument to investigate age-related variations in humour responses, using groups from each of Grades 4, Grade 7 and college age. Tasks involved children rating

each of three alternative completions (appropriate non-comic, incongruous non-comic and incongruous comic) on a 5-point scale of funniness. The results indicated some variations between the age group, with the middle age group finding simple incongruity funnier than the higher or lower age ranges. However, the comic completions were rated funniest by the younger age group, which is unexpected from a developmental viewpoint.

Bird (1925) administered a humour test to a group of children aged from 3 to 16 years. The instrument used a collection of pairs of pictures which displayed incongruous or absurd situations. Having established norms, Bird assigned humour scores to individuals based on the deviation of their responses from their peer norm. Those children who scored highly on this measure tended towards social maladjustment. Significantly, Bird found significant correlation between IQ measures and the humour scores.

Hetherington (1964) in seeking to test the Freudian theory of humour as it applied to physically handicapped children, presented a range of cartoons (classified as either activity or non-activity) to children who were either afflicted with cerebral palsy from birth, afflicted with poliomyelitis after birth, or non-handicapped. She hypothesized that those subjects who had once had motor control but had lost it (the poliomyelitis sufferers) would have higher levels of frustration than those who had never had motor control (the cerebral palsy sufferers). Under Freudian theory, both groups should seek gratification of suppressed wishes through humour and exhibit a preference for activity cartoons over non-activity cartoons (and this preference should be greater than it is for non-handicapped children). Under this view, the subjects who had lost motor control would show a greater preference for activity cartoons than those who had never had control. This hypothesis was borne out by the study, although other hypotheses regarding the effect of age of onset and nature of affliction

on humour preference were not supported.

Subsequent approaches to humour in children can be categorised into:

1. Cognitive and developmental approaches
2. Linguistic approaches
3. Creativity approaches
4. Sociological approaches
5. Approaches based on moral development
6. Physiological approaches
7. Clinical and therapeutic approaches
8. Personality approaches
9. Environment/Genetic approaches
10. Pedagogical and classroom approaches.

#### *2.4.2.1 Cognitive and developmental approaches to children's humour*

Some developmental issues were investigated in the studies carried out in the first part of 20<sup>th</sup> century. The greater spread in humour perception in older children than in younger children was reported by Graham (1958), and the dominance of visual forms of humour in primary-age children, shifting to verbal humour and wit as they moved into and through high school, was observed by Harms (1943) and Laing (1939). The variation in the forms or manifestations of humour with age (and hence with development) has been researched more recently by Bergen (1989). This is best seen as an increase in capacity to appreciate various humour forms with age: "it seems that with increasing age, the range of humour types

enjoyed is expanded, without any types dropping out, rather than that young children enjoy humour types that are completely different from those appreciated by the older” (Bergen, 1998, p. 331).

The correlation between humour appreciation in children and general measures of cognitive functioning such as performance on IQ tests was also found in studies by Brumbaugh (1939), Justin (1932), Kenderdine (1931), Williams (1946). A study by Hauck and Thomas (1972) also showed a correlation between humour and intelligence, humour and creativity but not intelligence and creativity.

Significant empirical research into children’s humour was undertaken by Wolfenstein (1953) in which school-age children were presented with a set of joking riddles. Evaluation of the riddles themselves was undertaken, as well as variants of these riddles with non-joking answers. The capacity of children to describe the mechanism of the riddles and to distinguish non-joking answers was seen to vary with age, interest in jokes, intelligence, riddle content and the technical difficulty of the joke.

Some results were obtained by other investigators (for example, Cunningham, 1962) which reported little or no correlation between humour appreciation and intelligence. In studies which were not specifically confined to children, a number of studies (Cattel & Luborsky, 1947; Stump, 1939) also failed to identify a significant relationship between humour and measures of intelligence (such as they were at that time).

Zigler, Levine and Gould (1966, p. 509) observed that by 1940 “many investigators (had) concluded that intellectual development is not a deciding factor in the appreciation of humor”, including several researchers who had placed considerable emphasis on its importance but concluded that its role is overpowered by emotional factors.



This evidence, coupled with the advances in theory and approaches to measuring “intelligence” which have taken place since the first of the studies suggests possible alternative interpretation of earlier results. Possibly the general measures of intelligence mask specific factors of intelligence which are involved in humour perception and appreciation.

Zigler, Levine and Gould (1966) undertook a study to resolve some of the difficulties surrounding the function of cognition in humour. A Children’s Mirth Response Test was developed from the adult version developed by Redlich, Levine and Sohler (1951), and administered to 64 children spread over second grade and fifth grade. Responses to the cartoon items were used to establish three measures for each child on each item: a yes/no funniness rating, a facial mirth score and a comprehension score. Findings indicate that a positive relationship existed between cognitive level (as indicated by grade) and comprehension of the cartoons. However, the mirth response increased through grades 2, 3 and 4 and then decreased sharply and significantly between grades 4 and 5. The explanatory hypothesis advanced was a cognitive-congruency principle, which essentially requires cartoon items to make a cognitive demand which challenges the child’s cognitive capacity. That is, fifth-grade students were typically finding the cartoons too easy in a cognitive sense, and thus finding them less funny. This result in turn suggests that some aspect of humour is associated with the challenge and reward of “getting the joke”. Evidently humour without an appropriate cognitive challenge seemed to lose its attractiveness, in the same way that a golf course free of obstacles has little appeal to a professional golfer, or a small hill to a mountain climber.

A follow-up study by the same researchers (Zigler, Levine & Gould, 1967) supported this

hypothesis, with peaks of mirth scores and student preferences occurring at a moderately difficult level of cognitive challenge (as measured by comprehension scores. This is an indication that the level of congruence between cognitive demand (of an item) and cognitive capacity (of the individual) has a substantial impact on the level of humour response. This principle will be immediately recognized by educators as a principle which applies in other areas of development, where teaching and learning strategies aim constantly to provide individual learners with material which provides a challenge to their abilities (whether physical, social, emotional or intellectual). It is similar in concept to White's "effectance motivation" (White, 1959) and Kagan's "effortful assimilation" principles (Kagan, 1967, 1971) which assert that "the successful processing of information which is a challenge to existing cognitive structures ... is more pleasurable than either the processing of easily assimilated information or the unsuccessful attempts to process highly discrepant or unfamiliar information" (McGhee, 1976a, p. 425).

McGhee, in one of the earliest of his many investigations of children's humor (McGhee, 1971) examined the findings of Zigler et al. (1967) and looked more deeply at the effect of cognitive functioning on humour comprehension. Whereas Zigler et al. had used school grade as a relatively coarse measure of cognitive functioning, McGhee adopted a Piagetian approach and used cognitive tasks (aimed at conservation of mass and volume, class inclusion and lateral discrimination) to evaluate each subject's level of functioning. Results supported the hypothesis that "a child's level of cognitive functioning is a highly significant variable in determining his comprehension of humour based on incongruity" (McGhee 1971, p. 135). In particular, McGhee showed that in his 7-year-old group, the range of scores on humour comprehension was wider than that of the 5- and 9-year old groups, as the 7-year age range covered subjects ranging through the transition between pre-operational and

operational thought, a range that was not present in either the younger or older group. The relationship only held for incongruity humour, which has a dependence on logic which accompanies operational thought.

The data from McGhee's studies appeared not to support the work of Zigler et al. In particular, there did not appear to be evidence for a cognitive congruency principle at work. McGhee examined the possible reasons for this and postulated that it may be related to the fact that his humour stimuli were cognitive with minimal emotional content while those in the Zigler et al. study included some emotional components. As a result, an effectance motive may have been operational but the resultant emotional expression was reduced by the low level of emotional content. He proposed that possibly " 'getting the point' of a joke or cartoon at the edge of one's cognitive abilities may give rise to a greater mirth response than one easily comprehended when the humour content is emotionally salient to the subject." (McGhee, 1971, p. 137).

In a later study, McGhee (1976a) looked more closely at the apparent violation of the cognitive congruency principle and the limitations of the 1971 study. Instead of using a single cognitive development score, he retained scores on specific components and developed humour stimuli which were based on these components (conservation and class inclusion). The results supported the cognitive congruency hypothesis; humour appreciation peaked just after individuals had acquired an operational thinking concept, and decreased for subjects who had not acquired the concept or had acquired it some years previously.

McGhee's observation that the emergence of humour in children can help identify some of the features of humour itself as well as link them to the developmental state of the child proved to be important in prompting research from the 1970's onward. While McGhee was

initially concerned primarily with cognitive development, other areas of child development were investigated. Kappas (1967), for example, used overall developmental profiles to characterize humour responses for five-, nine- and fourteen-year- old students to give a series of benchmarks of humour development, based on an analysis of juvenile literature from studies by other researchers.

Heckel and Kvetensky (1972) followed the cognitive development path and investigated the responses from children to questions aimed at eliciting the student's personal understanding of humour and preferences for humor stimuli. They evaluated each child's cognitive development using a set of causality questions based on a Piagetian model. Humour responses were scored on a 12-point scale developed previously by Heckel, while the causality responses were placed on a 7-point scale. Age, causality rating, humour response and racial background were analyzed for inter-relationships. Racial background (black vs. white American) was found to have no effect except on the cognitive functioning scores at grade 8 level. As may have been expected, they found a strong relationship between humour development and the level of causal thinking.

Gleitman (1991, pp. 304-307) proposed a theory of humour which saw humour following a pattern of an expectation being built up, then failing to be fulfilled, but the unexpected outcome making sense anyway. This process, which Gleitman terms cognitive restructuring, places requirements on cognition in order for the expected and unexpected outcomes to be rendered as making sense. Again, there is a common thread of cognitive function and resolution of two alternative situations.

From the early 1970's, the level of interest in humour research underwent a substantial increase. McGhee & Chapman (1980, p. xi) note that the number of publications focusing on

children’s humour over the decades up to the date of writing of their work (published 1980) was as shown in Table 1.

Table 1. Number of publications on children’s humour 1900-1980. <sup>1</sup>

	<i>Decade</i>							
	<i>1900-9</i>	<i>1910-9</i>	<i>1920-9</i>	<i>1930-9</i>	<i>1940-9</i>	<i>1950-9</i>	<i>1960-9</i>	<i>1970-9</i>
No. of publications	2	2	9	12	13	8	14	106+

<sup>1</sup> McGhee & Chapman (1980, p. xi)

This rapid increase can be attributed largely to the work of Zigler, Levine and Gould and especially that of McGhee which linked humour with cognitive functioning, a timely and significant connection. By utilizing a Piagetian framework, McGhee’s work linked humour with a wealth of other child development and educational areas which had been also examined in a Piagetian manner.

Not surprisingly, as the complex nature of humour and its developmental implications emerged, a range of approaches to its study in children emerged. These include a linguistic or psycholinguistic approach, a literary approach, a creativity approach, an approach based on social aspects and functions, clinical and psychotherapeutic approaches, a physiological approach, approaches based on personality, and a pedagogical approach. Each of these areas contains children’s humour as a subset of the study of humour generally. The cognitive and developmental approach is evident in several of these areas, and far from ceasing has widened into several threads in the above categories.

2.4.2.2 *Linguistic approaches to children’s humour*

Linguistic approaches to humour recognize that verbal or linguistically-based humour is one

of the more prominent (and durable) forms of children's humour, being based on what is for most people the most natural yet powerful mode of communication and expression.

Additionally, language is a rule-based system (or at least one in which patterns are evident to a competent speaker or listener). This makes language a natural environment for humour which depends on violation of rules and patterns.

In children, linguistic growth is accompanied with metalinguistic growth, that is, a growth in the capacity to reflect on or talk about language itself. This might not be particularly explicit, nor take the form of a linguist's analysis, but nevertheless children understand certain linguistic rules without being overtly taught these rules. This is evident when children correct language errors spontaneously or invent new words by applying acquired rules (e.g. "flyed" as a logical derivative of "fly").

Shultz & Robillard (1980) postulated that linguistic humour in children was based on the child's developing metalinguistic knowledge, using an incongruity/resolution model of humour. They give an analysis of humour resulting from incongruity and resolution at a range of linguistic levels: phonological (sounds), morphological (words), semantic (meanings and rules for constructing meaningful combinations of words), syntactic (logical relations and transformational rules) and pragmatic (rules governing language in a social context). In each case, examples were given as to how rule violations were able to generate humour. These are shown in Table 2.

Table 2. Linguistic humour as a function of rule violation

<i>Linguistic level</i>	<i>Examples</i>
Phonological	humour induced by phonological errors in pronouncing “tongue-twister” utterances  use of poetic format (notably trochaic tetrameter) to dignify tendentious content in childhood rhymes
Morphological	play languages (e.g. Pig Latin)
Semantic	semantically void but syntactically and phonologically valid poems e.g. Jabberwocky (Lewis Carroll)  Name-calling
Syntactic	Rare in children: Schultz & Robillard contend that this may be due to the psychological primacy of semantics over syntax.
Pragmatic	Literal answers or interpretations, e.g., “Do you know the square root of 64?” “Yes” “Hold your tongue” (child does exactly that).

The author’s teenage daughter is still amused and somewhat embarrassed that for several years she interpreted the words of a favourite song which included the phrase “the cross I’d bear” as being “the cross-eyed bear”. While initially this was humour generated unintentionally by her and appreciated mainly by her older family, it became a source of humour for her once she understood the phonological confusion and the semantic consequences.

An approach which has provoked considerable research into verbal humour is that of formal linguistics. While linguistic approaches emerged as a significant area of humour research, it has only relatively recently been mapped onto other theories of humour and the parallels

identified (Attardo, 1997). The mapping has perhaps been a comforting outcome and adds validity to both approaches, as they appear to have more-or-less independently reached explanations of humour which are isomorphic.

At this point, semantic theories of verbal humour such as the Semantic Script Theory of Humour (Raskin, 1985) and the wider General Theory of Verbal Humour (Attardo & Raskin, 1991) provide us with a nomenclature and framework for analyzing verbal humour which may prove useful in describing humour in script form, and which may prove useful in analyzing student comprehension of humour. At the time of writing however no research appeared to have been undertaken in applying either of these to children's humour other than at a textual analysis level (which is identical to the corresponding adult situation).

Linguistic approaches to humour in children have, as may be expected, provided information about the nature of linguistic humour and children's literary development. In explaining the processes underlying literary humour, Gardner (1980) concentrated on the role of metaphor within language as key to humour. Basing his ideas on the concept of humour arising from juxtaposition of two ideas which are linked in novel manner, and seeing metaphor as the figure of speech which achieves this, Gardner proceeds to investigate the competence of children with metaphor.

At its lowest level, metaphoric competence requires the child to be aware that different categories are being compared, and a tension exists between these two categories. Thus, in encountering the biblical metaphor "Peter is a rock" the child needs to be aware of and comprehend that Peter is not, in fact, a geological entity, but a human. The next level of competence requires a single physical property to be equated between the two disparate items involved in the metaphor (for example, Peter and the rock are both large, or cold, or heavy).



A more sophisticated level of competence occurs when this extends to expressive or psychological properties (for example, Peter and the rock both represent stability and durability in extreme conditions). A further level of sophistication involves identifying multiple similarities and differences between the two categories in the metaphor, along with the ability to elaborate on the reasons for the metaphor's relevance or appropriateness.

Similar levels apply to production of metaphor, though Gardner (1980, p.95) contends that the lower levels of metaphor competence are available to young children, while the higher levels appear to be available mainly to specific groups of adults.

Drawing on the research of Asch and Nerlove (1960) and several follow-up studies on the ability of children to perceive both the physical and psychological meanings of words like "cold", Gardner points out that up until middle childhood children are aware of only the physical meaning, and then for some time are unaware of the connections between physical and psychological meanings. On this basis, competence in production of metaphors should be unlikely to emerge until late childhood. This result is at odds with studies of children's early language, in which figures of speech that fit the definition of metaphor are regularly observed. Gardner cites a study by Gardner, Kircher, Winner and Perkins (1975) which showed apparent peaks in production of imaginative metaphors in pre-school and college-age students, although he concedes that some of the apparent metaphors from pre-school students may have been accidental.

Ackerman (1983) studied the responses of children when presented with spoken ironic utterances (which carry a similar structure to metaphors in having literal and non-literal meaning which have to be resolved). He observed similar difficulties with resolution in young children, and noted that children, compared to adults, were relatively more able to

detect an inappropriate literal form generated by an ironic statement than to interpret the intentions of the speaker in using that statement. Ackerman concludes “even first graders understand ironic utterances on some occasions of use. So there is no in principle logical or computational deficit that obstructs comprehension. This understanding increases monotonically with grade. ... Children are better at rejecting the literal form (Rejection) than in interpreting the outcome of this rejection process (Inference)” (Ackerman, 1983, p. 504). Ackerman also noticed that students tended to use non-literal cues (in his study, stressed intonation) as age increased. This tendency may reflect a developing understanding of social and cultural influences on language use.

#### 2.4.2.3 *Creativity approaches to children's humour*

In approaching humour from a creativity viewpoint a methodological problem arises, in that creativity is as difficult to define and measure as humour. If we accept the notion that creativity involves divergent thinking, unexpectedness, originality, and “connecting previously unrelated dimensions of experience” (Koestler, 1964, p. 96) we approach some understanding, if not definition, of creativity. Even so, identifying such a characteristic in children is not straightforward as these terms are all defined from an adult perspective (that is, what is original for a child internally, such as noticing regularities in the shape of the moon over successive months, might be commonplace to an adult).

The link with creativity is significant, as creativity and humour share some common characteristics. De Bono (1996, private communication) agrees that absence of sense of humour is likely to accompany low levels of creativity, based on his model of creativity based on a self-organizing system, where provocation takes the thinking process off its linear track and onto a side track, from where we can trace a new idea back to its starting point

(Figure 3). This is analogous to some forms of humour, in which an apparently absurd statement or idea turns out to have a different interpretation which is quite logical in hindsight.

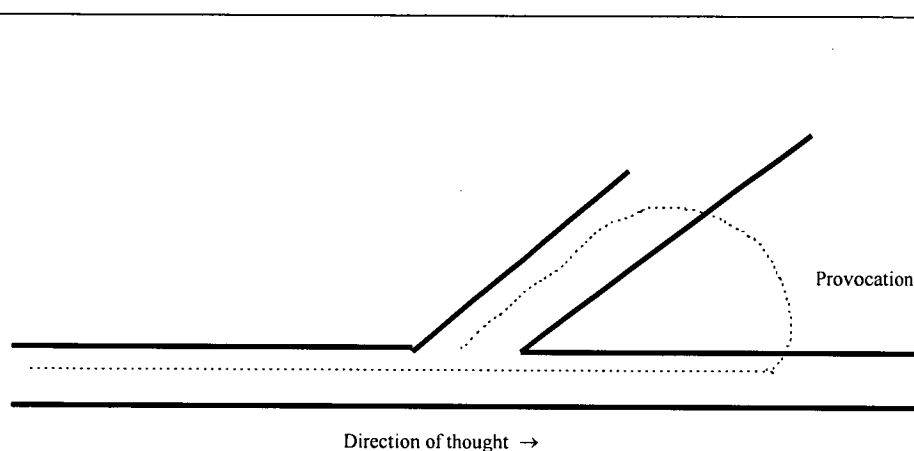


Figure 3. The creative process <sup>1</sup>.

<sup>1</sup> After de Bono, 1992, p.147.

This is best illustrated using a variant of de Bono's (1992) diagram, which shows the operation of the brain as being analogous to the dotted line, following a major path from left to right. A provocation drags the operation off the main track, and from there it finds itself deposited on the end of a side branch, from which it can trace back down to the main branch again.

As a description of the creative process, the provocation is an arbitrary idea or concept which has no obvious validity when it appears. However, when it dumps the mind at the end of a side branch, the mind's operation can follow backwards down the side track to the main line of thought, in the process finding a logical path which justifies or validates the idea caused

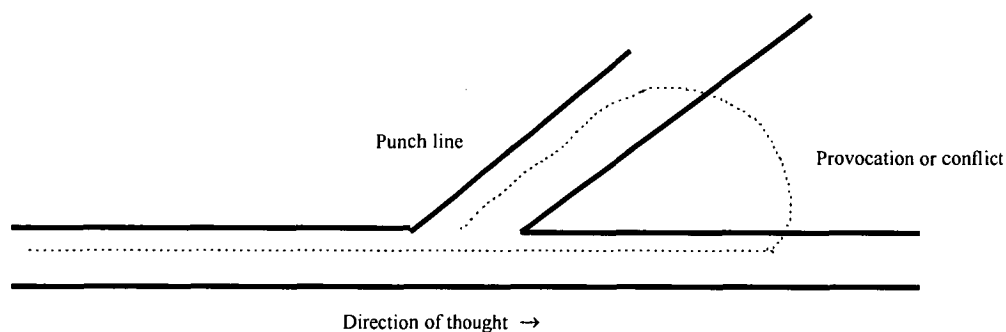
by the provocation (a sort of logical justification in reverse).

As a description of humour, the model shows the path of thinking being dragged off the main track by a provocation or conflict, then being dumped at the end of a side-track which, when followed back to the main track reveals a logical explanation or resolution of the conflict.

The end of the side track (a logical path but one which thought does not normally take)

represents the resolution of the joke, the punch line or the action of “getting the joke”:

suddenly, the apparent incongruity is resolved and the thing makes sense. It is an assumption of the model that the side track is almost invisible to thought proceeding in its normal direction; thought, like water, is “pulled” downwards on this diagram and thus the path down the side path is natural whereas the path up it is not normally taken (though it does represent a logical path) (Figure 4).



*Figure 4. The humour process*

This identification of a logical path by tracing it backward is loosely equivalent to Berlyne’s jag or boost (Berlyne, 1972), the “two scripts” of semantic theories, and Bainy’s Sudden Perception of Dual Values (Bainy, 1993). It differs mainly in its over-simplification of the

cognitive processes which are required in the process.

The close parallels between the structures of the creative process and the humour process suggest that the underlying cognitive processes are related in some way.

If so, one would expect a close correlation, verifiable empirically, between creativity and sense of humour. Both rely on a bisociative thinking process of seeing an idea in two frames of reference which are consistent but normally seen as incompatible. Hauck and Thomas (1972) in a study of 80 elementary school children found a strong correlation ( $r=0.89$ ) between sense of humour (as ranked by peers) and creativity (as measured by the Torrance Tests of Creativity).

McGhee (1980), reporting his extensive longitudinal study of children in the Fels Nursery School and Fels Day Camp, indicated that for children over the age of 6 years creativity ratings (based on innovation in using materials and in dramatic play and language flexibility and originality) were strongly predictive of humour initiation (based on observed verbal and behavioural humour such as puns, riddles, distortions, jokes, clowning behaviour, gestural teasing etc). This result was not found when creativity measures were taken on 3 to 6 year-olds.

A substantial body of research exists linking creativity to playful behaviour and humour, such as that of Torrance (1961), Getzels and Jackson (1962) and Torrance (1962). Not surprisingly, a number of researchers and practitioners also hold that humour and playfulness are strongly linked, including McGhee (1979), Fry (1963) and Klein (1989). In pre-school children, where play is an especially significant medium of learning, some relationships have been established between fantasy activity and humour responsiveness (McGhee, 1980, p.127) but not with humour initiation. These results were supported and extended in a later

study (McGhee & Lloyd, 1982) in which the amount of time spent in social play was found to be a major predictor variable for humor-related behaviour. Therefore it appears that while playful behaviour may share cognitive and motivational bases with humour, and provides a pathway for it to develop, the two are not identical.

As well as capacity or propensity to appreciate humour, the different value placed on humour by creative and non-creative students is of importance. In a study of fifth grade children, Wallach and Kogan (1965) found the high-IQ/low creativity students to be intolerant of fantasy or unconventional thinking, while their counterpart low-IQ/high creativity showed higher tolerance of unusual hypothesizing and were more willing to risk putting forward an unusual idea. While this may be interpreted in several ways (including the interpretation that lower-IQ students may not be as able to distinguish between usual and unusual ideas) one conclusion is that level of creative capacity acts as a limit on humour comprehension, appreciation and production.

McGhee (1974a) investigated the cognitive processes underlying the creation of humour and found that children as young as 7 or 8 may be able to “learn” to generate certain examples of humour. Significantly, they appeared able to do so before they were aware of the general features of the joking relationship (or at least before they were able to verbalize them). This ability occurred when children were given concrete examples of joking humour. It appears they can generate humour which complies with a learned style, in much the same way that children can produce grammatically correct sentences without being able to generalise the characteristics of such sentences. The phenomenon may either be the result of an innate capacity of learning, or simply a reflection that the task of describing a process such as joke creation has a higher cognitive requirement than the joke creation process itself.

A variety of other studies suggest that the state induced by humour may also promote creative thought, such as the study by Hauck and Thomas (1972) which showed close correlation between sense of humour and creativity, as did Torrance (1962) and Getzels and Jackson (1962), and the work cited by Russo (1987) in which the viewing of humorous videos improved performance on a creative task. The presence of other factors which are difficult to remove or isolate from humour (notably a simple increase in mental arousal) unfortunately weakens the confidence of such studies.

Ziv (1984, pp. 131-134) portrays a close connection between creativity and sense of humour, while Holt and Willard-Holt (1995) see humour as valued by gifted students, and in fact include humour as a characteristic of giftedness, and argue that the process of understanding and generating humour favours the gifted, as they typically have a higher level of language competence and metalinguistic skill. This view is consistent with the views and results of Ziv and Gadish (1990) although they found that humour was either enhanced or depressed in gifted students: they found a bimodal distribution of peer-rated sense of humour in gifted students, while non-gifted students generated a normal distribution on the same instrument.

#### *2.4.2.4 Sociological approaches to children's humour*

Humour is not necessarily a phenomenon which relies on a social context for its existence (for example, it is possible to laugh at oneself in isolation). However, it clearly thrives within a social framework. Given that the journey from pre-school to adulthood is accompanied with a huge component of socialisation it is apparent that an understanding of the social aspects of humour is critical to understanding humour in children.

Malpass and Fitzpatrick (1959), drawing on earlier ideas from Omwake (1939) and Perl (1933), investigated the role played by social situation in moderating reaction to humour

stimuli with young adult students. Their study showed that the size of group had an impact on social behaviour resulting from humour. They reported that joke stimuli produced most effect (i.e. were rated as more humorous by the students) when presented to large groups or on a one-to-one basis. Conversely, the joke stimuli were least humorous when presented to small groups. For cartoon stimuli the optimal results were obtained in a one-to-one situation, with a decline as group size increased. Small groups produced their own unique reactions: jokes tended to raise jeers, whereas cartoons generated cheers. Although these adult results cannot be directly transferred to a child population, they indicate that social environment can impact on humour. This finding is a significant piece of information for teachers and researchers dealing with children (and one which will come as no surprise to teachers).

McGhee's study previously referred to in the section on play and creativity makes it clear that we should expect links between developing social interaction skills as manifested in childhood play behaviour, and sense of humour. McGhee (1973) investigated this further, in particular looking at the role of birth order in social facilitation of humour. Based on previous work on affiliative tendencies (Schacter, 1959) which indicated that firstborn children are more likely to use social means to reduce anxiety (that is, behaviour which gains the support and comfort of others), McGhee set out to see how this behaviour affected humour reactions. His hypothesis was that first-born children would show greater observable humour appreciation than later-born children when experiencing humour in groups, but not in individual situations. This hypothesis assumed that the apprehension of evaluation would produce anxiety in each situation, but that it would be greater in a group situation. Thus, as firstborn children tend to use social means to alleviate anxiety, and later-borns tend to use non-social means, there should be an increase in laughing and smiling for firstborns and a decrease for later-borns when in a group situation. This hypothesis was supported by the



study. This study was performed on adult subjects but as the phenomenon involves social processes occurring during childhood it has some validity and relevance to children.

Interpersonal attraction and its relationship to sense of humour was investigated by Murstein and Brust (1985) in an adult environment. They demonstrated that (in a group of 30 pre-existing male-female couples) similarity of ranking humorous stimuli was correlated with several measures of romantic affection. That is, somehow in the process of social formation of couples, similarity of sense of humour (or humour preference) emerges in couples.

Whether this is among the factors which attract one person to another, or whether couples accommodate or adjust their individual humour preferences towards one another (or possibly to a third humour preference) is not addressed, although an attempt to account for accommodation of humour preferences was made by using length of relationship as an measure of accommodation (the longer the relationship the greater the opportunity for changes to occur). This did not support an accommodation hypothesis.

The work of Murstein and Brust has implications for classroom practice at several levels. Firstly, if the conclusions can be transferred to children one would expect to find natural pairings or groupings of children with similar senses of humour. Equally importantly, if Murstein and Brust's conclusions apply to affections in general, it is possible that some children will be better placed to like and be liked by (or perceive that they are liked by) those teachers who share some humour characteristics.

In a study with 7- and 8-year-olds, Chapman and Chapman (1974) found that some responses to humour (levels of smiling and laughter) and perceived ratings of humour by subjects were increased by laughter and smiling of companions (who were nine-year old experimenter-collaborators placed with the subjects). Their study supports earlier work by Chapman

(1973b) which showed that children laughed and smiled more in natural dyads than when alone, and studies which showed children laugh more in groups than when alone (e.g., Kenerdine, 1931) or when presented with an artificial source of accompanying laughter (Chapman, 1973a, Leventhal & Mace, 1970). This result is consistent with practitioner experience of classroom behaviour.

Subsequent studies by Chapman also investigated the concept of social intimacy (Chapman, 1974), and its interaction with humour in children. These studies used conditions where subjects were arranged with confederates (similar-aged students who had been instructed to exhibit specific patterns of laughter or smiling) under a number of different seating arrangements. (Chapman, 1976, pp.178-179). The mirth response in the subjects varied with orientation; the lowest response was when seated back-to-back, increasing when seated at right angles, increasing further when side-by-side without gazing, increasing further still when side-by-side with gazing and a highest mirth response when seated face-to-face. Chapman's results (Chapman, 1976, p.179) actually show the first two to be reversed for female subjects when the stimulus was laughter, which he attributes to the back-to-back arrangement itself being sufficient to cause laughter in some students). Further studies also showed that friendly infringement of body space enhances the mirth response to humour in children (Chapman, 1976, p.180).

While educators are justifiably cautious of directly applying experimental results to the classroom, it would seem that these results are worth considering from a classroom management viewpoint. Traditional classrooms based on the English government school model tended to have rows of desks in which students were discouraged (by both classroom organization and management) to make eye contact or speak to one another. If the stereotype

holds, these were also considered a place where humour was discouraged. Contemporary classrooms tend to allow much higher levels of face to face contact and interaction, which is, we are shown, more conducive to a humour-related response. This arrangement may be instructionally useful or otherwise depending on the objectives of the teacher at the time, but knowledge of the role of social intimacy in humour response levels would be a valuable tool for the teacher. As is often the case, this knowledge lies behind some of the strategies used intuitively by experienced teachers.

The work on groupings supports the popular perception of humour (or, at least, some of its manifestations) as being “contagious” but also points out a significant complication in dealing with children’s humour: while sense of humour may be an individual characteristic, its manifestations and accompanying behaviors are likely to be in a social setting with resulting interactions. Additionally, one aspect of an individual’s sense of humour actually involves its characteristics in a social setting. This suggests that research design needs to take into account that students will have both an individual and social component to their humour behaviour.

While educational settings are an important social environment for educators and education systems, they are by no means the only social environment in which children exhibit humour. The expression of humor in a home setting was studied by Bergen (1989), with children ranging from infant to 7 years of age. Bergen points out that some of the constraints of a school environment limit the expression of humour, and that the comfort level of a home environment may be different to that of the school, with consequent impacts on humour expression.

Bergen used parental reports of humour-related behaviour of children as a collection

mechanism, and compared the results with those obtained by others in non-home settings. The method of collection was a limiting factor as parents varied in their consistency to accurately observe and report on humorous behaviour, but similarities emerged in several areas. Results were consistent with those postulated by cognitive stage theory and the types of humour were identified by Bergen as similar to those reported in other studies of children's humour (Bergen, 1989, p.133). Gender differences were not observed, other than a higher reported frequency in boys of hostile humour within the joking stage of humour. Bergen suggests that the lack of a higher frequency of humour (expected from other non-home studies) may be a result of girls' higher communication and verbal skills making it easier for parents to identify the expressions of humour. Alternatively, it may indicate that home has different socialisation characteristics to those of schools and other settings. The socially dominant and aggressive behaviour of males in school environments (or other settings with large numbers of males) may have lowered the frequency of female humour responses in such settings, whereas the home environment, having typically smaller numbers of people than a school, is less susceptible to these forces.

Several studies have investigated the social roles of humour. Again, most of these have been in the adult area, but while recognizing the vast differences in purpose, method and outcome between adult social interaction and child social interaction, there remains some value in considering the results.

Martineau's work on social function of humour, referred to previously and given in Appendix C, depends critically on the nature of the relationship between groups. The history, agreed status, power locus and so on make the prediction of the effect of humour exceedingly complex. It is unlikely to be any simpler in dealing with children, and the impact of peer

pressure, developmental variation and other variables increase the complexity of examining the role of humour in a child's environment.

Martineau (1972, pp. 104-113) cites a range of studies on the role played by humour in several social settings. At that time, Martineau saw research into the social functions of humour as having peaked in the late 1950s and early 1960s. The significant studies include

- gallows humour in Czechoslovakia during Nazi occupation, where humour had a morale and hope-raising function and compensated slightly for the horror (Obrdlik, 1942),
- the joking relationship which is a strange mix of affection and antagonism, where teasing and mockery is accepted between two individuals (Radcliffe-Brown, 1940, 1949),
- humour as a device in coping and acknowledging feelings that were not formally expressible in race relations in the USA (Myrdal, 1944, pp. 38-39), and as a device for ridiculing others or subtly conveying hatred (Burma, 1946),
- the role of the fool in society, as a scapegoat yet powerful entity who can legitimately break rules, yet enforce propriety through the ridicule of breaking it (Klapp, 1950),
- the conflict and control functions of humour, using the stratification of class, status, income and occupation as a framework in which humour operates in a number of ways (Stephenson, 1951). In this sense, Stephenson portrays humour as providing parody, satire, irony, caricature etc. as tools of conflict, which may be seen as impacting on social control through development of stereotypes, expression of approval or disapproval, expression of unapproved views, providing a voice for group sentiment and so on.

- social functions of humour in a state bureaucracy (Blau, 1955) a department store (Bradney, 1957), and in a hospital setting (Coser, 1962)
- humour as a voice of tension and friction between American Negroes and the white population (Goldman, 1960)
- the role of a reference or identification group and an outgroup in humour, and the effect of the disparagement target on levels of perceived humour (La Fave, 1961).
- analysis of the role of humour in other social structures: the Luguru of Tanganyika (Christensen, 1963) and the Mossi of West Africa (Hammond, 1964), which showed the universality of humour in resolving hostility and negative emotions, as well as maintaining a stable social structure.

Numerous recent studies expand on the social role of humour, such as Davies' (1988 & 1997) studies of the social role of ethnic jokes, further work by La Fave (1972) on reference groups, studies of the role of humour in institutions such as those of Adelswärd (1989), Mulkay, Clark and Pinch (1993), and Adelswärd and Öberg (1998). Again, while these studies were of adult society, they indicate that humour's role in social functioning is too important to overlook.

McGhee (1979) outlines some roles which humour plays in children's lives. Before school age, and as part of both social development and humour development, humour can act as a link between child and parent or carer. It is one of many ways in which a child can display mastery of a skill and gain approval from an adult. The social value of humour at this age explains why very young schoolchildren re-tell jokes and riddles without understanding the humour involved, and in many cases losing the humour in the re-telling as many parents can

attest. For example, the author was in the presence of a pre school-age child and his older friends on a car journey through a forested area. One of the older friends, seeing a possum road-kill victim, posed the riddle: "Why did the possum cross the road? To visit his flat-mate". This prompted the young child to re-tell the riddle later on as "Why did the possum cross the road? To visit his friends" and laugh. This indicates that the child had understood the social structure (pose a riddle, answer it and laugh with others) without understanding the humour involved. (For readers from other cultures, a "flat-mate" is a common term for a person with whom one shares an apartment or flat, while the term "mate" is synonymous with "friend" in Australian English). As an aside, the adults and older children laughed at the young child's mis-told riddle, indicating the power of the socialisation process which encourages joking as a social process in some situations.

The phenomenon of adults "going through the motions" of responding to humour attempts in young children is also evident in the reported responses in Bergen (1989, p.132) and seems to be a reward response akin to the pride with which we display even the most hideous pieces of children's artwork on the family refrigerator, or congratulate a child on their most ear-grating musical attempts. It is not entirely restricted to socializing young children; adults dealing with others whom they wish to impress (workplace superiors, prominent figures) exhibit similar behaviour, which may have a politeness or stalling function. It is also evident in situations such as non-performance situations (for example, interviews) with known comedians whose every word is expected to be funny and generates a laugh response whether it is or not.

Other evidence indicates that, for some students at least, sharing a common characteristic with a teacher can promote a social link which provides some basis for an ongoing dialogue.

Condon and Crano (1988) demonstrated a link between another person agreeing with you and similarity-attraction, while Feingold (1990) showed a connection between physical appearance similarity and attraction. Investigating a more romantic level of attraction, Murstein and Brust (1985) found, in a study of college couples, that similarity of rating of humorous stimuli was associated with measures of loving, liking, and predisposition to marry.

While a similarity could be a largely unchangeable characteristic such as gender, racial or ethnic background, physical appearance or youthfulness, it can also be a variable in the same way as a favourite form of popular music or sports team. It is not unreasonable for a shared sense of humour to act as such a bond, and it is possible that this may prove to be a useful, modifiable characteristic for teachers to consider. Cann, Calhoun and Banks (1997) investigated the hypothesis that sense of humour exerts an effect on interpersonal relationships using a laboratory experimental approach. By varying both attitude similarity and response to humour in a hidden stranger with whom the subjects conversed by intercom, the researchers were able to see their effects on ratings of interpersonal attraction. They found that both Attitude Similarity and Response to Humour affected the subject's ratings of interpersonal attraction for the stranger, and that the Response to Humour variable was in fact of such importance that a dissimilar stranger who responded positively to humour was rated more highly in attractiveness than a similar stranger who responded neutrally to humour. Due to the method of selection of the humour items, a positive response from the stranger to a subject's humour stimulus was a measure of similarity of sense of humour between stranger and subject. Thus, similar sense of humour is a strong component of interpersonal attraction.



Cann, Calhoun and Banks performed this study on a group of adult subjects (mean age 22 years) but it is sufficient to indicate the possible effects of sense of humour on relationships between students and, equally importantly, between teacher and student. In a study of juvenile delinquent males in a group-home setting, Taubman (1980) found a significant positive relationship between the youth's evaluation of their care workers (who functioned as teachers and parents) and the level of similarity of successful humour between youth and carer. While the forces which shape perceptions of interpersonal attractiveness between students are extremely complex and largely out of control of a school, some of the forces shaping perceptions of teacher attractiveness to students are under some level of control (though never simple). While appearing attractive to students may not be high on every teacher's agenda, there are times when knowing the barriers and strategies involved in the relationship would be advantageous. It would appear that having knowledge of student humour development and preferences could be a useful addition to a teacher's armoury of resources.

Ziv (1979) investigated some aspects of classroom atmosphere and its relationship to the sense of humour of the teacher. A significant ( $p < .05$ ) correlation was found between a peer-evaluated sense of humour rating and a score based on a previously validated teacher attitude survey, which was related to attitudes and characteristics deemed to be those of a positive teacher. Ziv's study also investigated the psychological atmosphere of the classrooms of the 46 teachers involved, and found that those with higher humour scores tended to have positive classrooms environment (as defined by Ziv as sense of attraction of students to their class group). This positive classroom environment has been linked with students producing higher levels of work to achieve goals (Shaw, 1976).

Bryant, Comisky, Crane and Zillman (1980) looked at humorous behaviours exhibited by teachers and the corresponding levels on several dimensions of teaching effectiveness perceived by college undergraduates in the classes of these teachers. They found a positive, though small, correlation between the use of humour and perceived teacher effectiveness, with a gender difference indicating that this effect was greater for male teachers. Female teachers who used humour tended to receive lower scores on competence and delivery dimensions and overall teaching effectiveness. The positive correlations for females were on the appeal dimension and were associated with hostile and hostile-sexual humour. While the humour-effectiveness link was correlational the authors suggested further research before any causal relationship could be concluded. The authors suggested a range of social factors which could account for the gender difference, and given the era of the study this gender difference may possibly have been a product of its time as much as an underlying gender trait.

Ziv, Gorenstein and Moris (1986) looked experimentally at the reactions of high-school students (10th grade) to films showing a professional actor playing the part of a teacher, delivering material from a specific piece of a text. Four films were shown, one using self-disparaging humour, a second using humour disparaging the students, a third using humour which was a mixture of self-disparaging and a fourth control film using no humour. Each student completed a questionnaire describing their view of the films, and also a sense of humour instrument which rated their classmates. The results showed that the teacher using a mixture of self and other-disparaging humour was rated highest in terms of appeal and originality. Students with a high peer-rated sense of humour were also shown to be more appreciative of a teacher who uses humour, compared to students who had a low peer-rated sense of humour.

Berk and Nanda (1998) investigated the structured use of humour in the teaching of undergraduate statistics courses, and found that systematic strategies for using humour to test and assess statistics can improve attitudes to the course content and to the perceived usefulness of statistics itself. Given that statistics is one of the more feared subjects for undergraduates and others, this is a significant outcome. The study also showed that the reductions in anxiety and improvements in attitude resulting from humour facilitated improvements in achievement. Although it was not one of the hypotheses investigated, the methods used in the Berk and Nanda study are largely useable by any teacher: as they point out, “since humor is being employed as a teaching tool, its success depends more on a professor’s creativity to develop and integrate the humor into instructional materials than on his/her skills to execute it as a stand-up comic’ (p. 404). These results are encouraging from the point of view of teachers who may be reluctant to use humour in their teaching as they do not see it as a natural part of their teaching style.

Hudspith (1994) looked at the interactions between teacher and class in both harmonious and discordant class groups of primary age children (predominantly Australian Aboriginal). The harmonious classroom environments (those in which interaction was characterized by a positive affective tone) (HCE) had quite different evidences of humour than the discordant classroom environments (those in which interaction was characterized by a negative affective tone) (DCE). She found that

- teachers tended to be the main initiators of humour in both types of classroom environment
- in HCE, teacher humour was directed mainly at the group, whereas in DCE it was directed mainly at individuals

- the object of teacher-initiated humour in HCE was, in over half the instances, the teacher and incidents in their own life. These included self-confessed failings. In DCE teachers rarely if ever disclosed personal life through humour.

Explicit humour (for example, where a verbal message was congruent with the meaning the teacher wished to convey) was more often used when addressing the entire class, in both types of class. However, teachers in HCE classes consistently used explicit humour, while teachers in DCE classes tended to use predominantly implicit humour (where overt and latent meanings differ, for example the verbal message “Do you have a hearing problem?” with a latent message suggesting the child was unintelligent). Given that these teachers also tended to direct humour to individual students, these individuals were required to understand both the overt and latent content of the humour. Hudspith (p.24) expresses concern over the demands on cognitive and cultural functioning which this places on individuals, and the resultant feelings of uncertainty and misunderstanding. These in turn give rise to issues concerning student self-esteem.

Differences between responses to humour varied from group to group. Students in HCE responded only in “positive affect” responses (smiling, laughter, glee), the DCE students showed significant levels of negative affect responses (shame/embarrassment and confusion), resulting in all but one case from implicit teacher humour.

Student-initiated humour showed, under analysis, that these students (10-12 years of age) preferred explicit humour. Students in HCE directed most of their humour towards generating fun whereas students in DCE tended to use negative “put-down” humour. Hudspith concludes this was the humour modelled and legitimized by their teacher.

Teacher responses to student humour indicated that HCE teachers responded positively to

student use of fun humour and negatively to use of hostile humour, while DCE teachers responded positively to hostile humour.

Some studies have investigated the social environment in school administration. The work of Burford (1987) on the humour style of administrators in schools showed that the principal's sense of humour affected staff loyalty and job satisfaction, which in turn affected school effectiveness, which is a possible basis for student satisfaction. More importantly, the environment of the school (as measured by teacher perception) was related to principal's sense of humour. Jansen (1992) noted seven distinct roles or "gifts" of humour in an educational administrative environment, one of which was as a sort of pressure or safety valve, which allowed more than a coping capacity; rather, a capacity to deal with crisis management without becoming negatively affected. A second "gift" was as a counterbalance; a mechanism for countering the increasing seriousness of the administrative and planning process. Again, this role appears to be more than just coping, more a tool for allowing the individual to maintain activity on a task in the face of adversity, rather than merely putting up with it.

While not all of results of these studies cannot be applied directly to children, they relate to an environment which impacts on the classroom.

#### *2.4.2.5 Approaches to children's humour based on moral development*

Although several theoretical models of humour involve the individual making judgements about the "rightness" or otherwise of a situation (that is, establishing how it does or does not fit into some existing schema), relatively little study has been made of links between sense of humour and state of moral development. McGhee (1974b) investigated this link, basing moral development on a Piagetian framework with the two categories of moral reasoning:

heteronomous (where moral judgements of right or wrong are based on observed consequences) and autonomous (where moral judgements of right or wrong are based on intentions). Using primary school, high school and college students and exposing them to a range of stories in which varying amounts of damage and intentionality were involved, McGhee was able to show differences in perceived funniness. Students with heteronomous moral orientations preferred stories with highly damaging outcomes over those with less damaging outcomes. Autonomous students had preferences based on intentionality rather than damage. It appears that the state of moral development has some impact on perceptions of humour: the evaluation of situations underlying humour is a process affected by moral development. The conclusion that “while increased naughtiness or moral unacceptability of an outcome or event adds to its funniness for heteronomous children, it detracts from humor appreciation in adults and in morally more mature autonomous children” (McGhee & Chapman, 1980, p. 263) is borne out anecdotally when one observes a family watching the television comedy “The Simpsons”: the mix of humour elicits responses from adults and children at different times. The popularity of cult comedy cartoons involving intentional high-damage outcomes such as “South Park” and “Ren and Stimpy” with undergraduates seems not to fit this model however.

McGhee’s work was based on the moral development model of Piaget (1932). More recent views of moral development such as those of Gilligan (1982) and Kohlberg (1984) appear not to have prompted the same level of humour research. While Kohlberg’s model is a stage model which effectively refines Piaget’s model (and hence would be expected to yield similar results to McGhee’s work based on that model) Gilligan’s view replaces developmental sequence with a coexistence of alternative bases for moral reasoning. Gilligan argues that females tend to form moral judgements based on principles of compassion and

care, whereas males base theirs on abstract principles of law and justice. Although the research is mixed in this question, the gender difference may have consequences for the way in which developmental links between moral reasoning and humour are examined.

Socha and Kelly (1994) investigated the production of humour by children from ages 4 to 14 to determine the age at which the humour moves from pro-social to antisocial, and to identify if any gender differences in this age are consistent with Gilligan's theory of moral development. They found that politeness norms were violated with a frequency that increased markedly at Grade 4 and continued through to Grade 8, and that males were more frequent violators of these norms, consistently producing a greater proportion of antisocial messages than females. Socha and Kelly (p. 248) see this as boys turning their humour attention away from language play and logical gaming and towards making fun of others, and girls directing their humour away from disparaging others. They conclude that this is consistent with the predictions of Gilligan's theory of moral development. Proportionately more antisocial messages were directed at best friends than at teachers, while proportionately more logic/language violations were directed at teachers.

#### *2.4.2.6 Physiological approaches to children's humour*

Physiological studies of humour have been almost by definition constrained to examining the observable physical behaviours which accompany humour. While these have intrinsic value they also provide information to assist in the wider study of humour, although care must be exercised to retain the distinction between humour and its accompanying physical behaviours.

The approaches taken to measuring what is often called a mirth response include a range of measures. Redlich, Levine and Sohler (1951) used a Mirth Spectrum of simply observable

facial reactions, with Zigler, Levine and Gould (1966) extending this concept further into a mirth index. Shultz (1972), Shultz and Horibe (1974) and Rothbart (1976) used measures based on a similar concept. Although the mirth index has proven to be reliable and valid in a correlative sense (with humour ratings) it suffers from being a rather blunt instrument at an individual level, and as pointed out by Rothbart (1977) it fails to accommodate individual differences in response to humour. For example, two people may both find an incident extremely humorous but one may be far more overt and demonstrative in response. In addition, like any measure of accompanying behaviour, it is only measuring propensity to laugh which may or may not be an indicator of humour (we laugh for many reasons). Thorson (1990) raises this point which often seems to have been overlooked in the use of mirth or laughter as a measure of humour.

Other physiological approaches have included:

- measurements of movement and sound patterns generated by subjects exhibiting a humour response (Mair & Kirkland, 1977),
- production of epinephrine while viewing comedy and aggressive films (Levi, 1965),
- cardiovascular and respiratory change, palmar conductance and heart rate during viewing of comic and sad films (Averill, 1969),
- heart rate and galvanic skin response during comprehension of cartoons (Langevin & Day, 1972),
- muscular changes in the abdominal muscles during laughter (Svebak, 1975),
- respiratory patterns as predictors of laughter (Svebak, 1977),



- electromyographic study of changes in the isometric muscle tension in the frontalis muscle, as an arousal measure, during joking (Chapman, 1976),
- neurophysiological (Derks, Gillikin, Bartomole-Rull & Bogart, 1997).

Additionally, there is a range of physiological effects associated with humour which could potentially be used to “measure” humour responses (though not without practical difficulties). Some of these effects are immediate, others long-term.

In general terms, a range of physiological variables accompany humour responses. These variables are likely to have uses as indicators in a diagnostic or intervention environment but are of limited use in a classroom environment. Their study however does provide educators with some gauges of humour response which may be of value in forming a more complete picture of individual children.

#### *2.4.2.7 Clinical and therapeutic approaches to children's humour*

The use of humour as a therapeutic tool for both physical and psychological disorders in adults is well-developed. Some work has been done with children, with a considerable amount of knowledge emerging in the area of recovery from trauma, hospitalisation and nursing. While there are obvious differences to be expected between a traumatised child and one in a classroom, there are also some similarities. Most of the studies in the therapeutic and clinical area that are relevant to education have been included under other categories in this dissertation.

#### *2.4.2.8 Personality approaches to children's humour*

The concept of sense of humour as an attribute of an individual is central to most approaches to humour. Research has revealed that there are correlations between this characteristic and a

range of others. Thorson and Powell (1993b) investigated correlations between scores on their own Multidimensional Sense of Humor Scale (MSHS) and the Edwards Personal Preference Schedule (Edwards, 1959). While this investigation was performed on an adult population with a non-random component, it did indicate that humour generation was more prevalent in males than in females, and that females are more likely to use coping humour (Thorson & Powell, 1993b, p. 805). In addition, those rating higher on sense of humour (aggregated across the multiple dimensions of the MSHS instrument) tended to have lower scores on the Deference and Order personality traits. This observation was rationalised by Thorson and Powell as indicating that those who are willing to take risks by creation of humour are also likely to challenge authority or convention. The trait Exhibition is also correlated with the MSHS score, especially those subjects who scored highly on the humour creativity component of MSHS. The relationship observed between the trait Dominance and humour creativity was also consistent with previous research, such as that of McGhee (1980, p.233) who found that children with the most fully developed sense of humour were also aggressive, dominating and talkative. McGhee saw this as indicating that humour has a function as a control mechanism or a form of power over interaction with others.

Carson, Skarpnes, Schultz and McGhee (1986) examined the combined effects of temperament and communicative competence on humour. In a study with 158 young children (ages 4 and 5 years), they found that communicative competence and the personal characteristics of activity level and approach/withdrawal were strong predictors of humour. The relationships were determined by administering a standardised behavioural style questionnaire using mothers of the children involved, while the communicative competence and humour attributes were reported by head teachers of the children's nursery schools, using a standardised Communication Developmental Age Scale and three 7-item humour scales

respectively. These humour scales included laughter in social settings, verbal attempts at initiating humour, and behavioural attempts at initiating humour (such as gestures and facial expressions).

The same study also found that the characteristics of persistence/attention span, distractibility, response threshold, distractibility and mood were also associated with humour.

#### *2.4.2.9 Environment/Genetic approaches to children's humour*

The personality approach to humour assumes that at some stage sense of humour has become a relatively stable property of an individual. Some attempts have been made to establish the extent to which this property is hereditary and the extent to which it is a product of environment. As with many other characteristics of individuals, research in this area has been based on analysis of families and, in particular, studies of fraternal and identical twins, and adoptive and non-adoptive families. Manke (1998), using evidence from twin studies and the Colorado Sibling Study (CSS) (Dunn, Stocker & Plomin, 1990) concludes that genetic factors account for some components of humour, notably the incidence of aggressive humour and the use of humour within a family unit, but that this genetic influence was not evident in the use of humour with friends. As a part of the CSS study, the use of humour with mother and siblings was analysed within adoptive and non-adoptive families. The correlations between siblings was higher for non-adoptive than adoptive families, suggesting that some genetic (or at least non-environmental) factor was involved. Conversely, when the use of humour with friends was analysed, siblings in non-adoptive families showed almost identical correlations as those in adoptive families, indicating that environmental factors are significant in influencing the use of humour outside of the family group. The possible reasons for this difference in the influence of genetics and environment are many, and Manke

(1998, p. 369) suggests that the extended timeframe over which family relationships operate (compared to the relatively short timeframe of external friendships) may give more opportunity for genetically determined characteristics to be reflected. Alternatively, the function of humour may be quite different in family relationships than in extrafamilial relationships, and the role of genetic influences may differ between these functions.

#### *2.4.2.10 Pedagogical and classroom approaches to children's humour*

The use of humour in teaching school-age children is acknowledged by many teachers as a significant tool in designing and providing instruction, behaviour management, personally coping with stress and in maintaining enthusiasm in a demanding profession. However, teacher training and in-service courses do not, as a matter of course, incorporate components on the role of humour, and few articles on humour appear in journals of teacher education. Many teachers see their use of humour as emerging from their personality and experience rather than from any formal or well-defined understanding of humour processes. This phenomenon in turn is the result of several factors: humour theory is not well-represented in educational publications, its level of recognition amongst educators as a formal area of study is not high, and to some extent education has seen itself as aligned at the work end of a work-play continuum, with humour aligned at the play end.

The work of Hauck and Thomas (1972) established that humour played a role in some forms of learning in children, although this was under non-naturalistic conditions and was centred on a memory recall task. This study, which purports to show the effect of humour on intentional and incidental learning, was based on a task presented to children from about 9 to 12 years of age.

The task involved each child being given ten items, each of which had labelled drawings of

three common objects. For each item, the child was asked to select two of the three objects and write a few sentences associating the two for some use. The type of use varied between groups of children: one group was instructed to give a humorous use, a second group an unusual but non-humorous use, and the third, control, group was asked to give common or usual uses.

The children were given a recall task a day later. This consisted of a list of ten of the twenty objects chosen by that child, one from each item. The child was asked to name the other two objects which had been presented with the one given. In each case, one of the remaining items would have been included in the child's association sentence, and the other not. The study interpreted these as intentionally learned (by virtue of constructing a sentence) or incidentally learned. Analysis of the responses showed that the unusual associations increased both intentional and incidental learning. However, the humorous associations increased the incidental learning and decreased the intentional learning. A summary is given in Table 3.

Table 3. Mean number of labels recalled by group from set of ten <sup>1</sup>

<i>Item type</i>	<i>Intentional learning</i>	<i>Incidental learning</i>
Usual	5.92	0.74
Unusual	7.39	2.13
Humorous	5.87	2.15

<sup>1</sup> Compiled from Hauck & Thomas, 1972, pp. 53-54.

In both intentional and incidental learning, the “unusual” group differed significantly from the “usual” group ( $p < .05$ ). However, the humorous group was only significantly different in the incidental learning case, and in fact yielded slightly lower scores than the “usual” group on intentional learning.

These results are initially a cause for concern, as they indicate that humour assists incidental learning and may depress intentional learning. There is some debate as to whether the types of learning involved here are representative of the types of learning involved in classrooms, and in fact whether the classification of intentional and incidental learning is valid. As the children were performing a task with no intention of learning from it, the entire exercise can be viewed as incidental learning.

2.4.2.10.1      The Cardiff Study

A substantial body of knowledge on the role of humour in learning was accumulated via the Cardiff Study reported by Davies and Apter (1980), which directly investigated the effect of introducing humour to a slide-tape audiovisual teaching programme. Children between 8 and 11 years old were pre-tested for subject knowledge, and completed the Torrance Test of Creativity, the Parter and Cattell Children’s Personality Inventory and the Junior Eysenck

Personality Inventory. One half of the 285 children then viewed an audio-visual teaching programme while the other half viewed an otherwise identical programme which incorporated slides containing caricature, incongruity and slapstick humour. These humorous slides were only minimally related to the topic and were not designed to add any new information.

The topics of the teaching programmes covered General Knowledge (signs and symbols in everyday life), Science, Language (16 everyday Latvian words) and Geography/History (Afghanistan). These topics were selected to minimise the interference of prior knowledge, and pre-tests verified that prior knowledge was very low. The programmes were viewed as part of a normal teaching day in a classroom setting. Post-testing was performed immediately after each programme, within the school day.

The results indicated that the learning in children exposed to the humorous teaching programme was significantly higher ( $p < .001$ ) than that of the children viewing the non-humorous programme. Attitudinal responses showed a significant difference between humorous and non-humorous programmes (Davies & Apter, 1980, p. 244).

Long-term retention was evaluated at one month and nine months. The difference between humorous and non-humorous programmes declined in significance with time ( $p < .025$  at one month, no significant effect at 9 months). As the four programmes were presented during the school day, it was possible to measure post-test scores under different sequences of presentation. The study indicated that for non-humorous presentations, learning decreased during the sequence, whereas in humorous presentations the levels, while decreasing, were closer to being constant. Thus humour appears to have the effect of maintaining the level of learning over the time interval involved in this study (which was in the course of a school

day). The scores are shown in Table 4.

Table 4. Mean post-test scores for the four programmes presented to children, based on their order of presentation within a school day.<sup>1</sup>

<i>Analysis of post-test scores</i>	<i>Presentation Stage</i>			
	<i>First</i>	<i>Second</i>	<i>Third</i>	<i>Fourth</i>
Mean post-test score, Humorous programme	14.51	14.70	13.92	12.02
Mean post-test score, Non-humorous programme	11.84	8.90	9.08	7.44
Difference between mean scores	2.67	5.80	4.84	4.58

<sup>1</sup> Davies & Apter, 1980, p. 247.

Analysis of the content within each lesson programme on the basis of its location within the 20-minute duration of the programme was undertaken. As 20 minutes is close to the limits of the concentration span often recommended for primary-school children, it was hypothesised that differences would be evident between the retention of material, depending on its location within the programme. However analysis did not support this hypothesis.

The Cardiff Study found no significant effect of age (over the interval from UK junior school years 2 to 4) or gender on the effectiveness of humour in promoting learning. In addition, the Personality Inventories yielded no significant relationships between personality traits and effectiveness of humour in improving learning.



#### 2.4.2.10.2 Humour in classroom interaction

A number of studies indicate that children and administrators value a sense of humour in their teachers. While this is not entirely a feature of children's humour, it reflects the importance placed on it. Sense of humour is included in the work of Cattell (1931); it was rated higher by infant and elementary teachers and heads than by secondary teachers and heads as a desirable characteristic of a good teacher. Burford (1987, p. 31) cites research by the National Association of Secondary School Principals, reported in 1984, which suggests "sense of humour was the third most highly prized teacher characteristic according to a sample of secondary school students". Many of the Australian Aboriginal children of school age observed by Hudspeth (1994) reported in interview that the qualities they liked most in their teachers were that they were funny and had a good sense of humour. In a study of the qualities and characteristics of effective teachers (Abbot-Chapman, Hughes, Holloway & Wyld, 1990), teachers nominated by ex-students as effective were asked to describe the characteristics of a good teacher and a good student. The term "humour" emerged in both collections, as 14th ranking for teacher and 18th for student. The same methodology was applied to teachers who had been nominated by students as having influenced them to continue education. In this study, humour was ranked as 3rd (for good teacher) and 9th (for good student) (Holloway, Abbot-Chapman & Hughes, 1992, p. 69). While this is only based on teacher perceptions of good teaching, the researchers found close agreement with student perceptions from other studies (Holloway, Abbot-Chapman & Hughes, p. 74). It must be noted, however, that humour is still well behind other characteristics of good teaching, and that some of those characteristics are easy to describe but difficult or impractical to measure.

A similar study by Black and Howard-Jones (2000) asked one hundred teachers to produce narrative of their best and worst teachers (these terms being left open to interpretation).

Analysis of the descriptions showed that the characteristics of good and bad teachers could be grouped as either personal or instructional. “Sense of humour” was identified as one of the personal characteristics of good teachers, and “making learning fun” was identified as an instructional characteristic.

Numerous guides and practitioner texts have emerged describing the use of humour as a part of the education process. As an example, Hill (1988) offers an overview of humour in education, including the humorous portrayal of education in the media, the role of laughter in the classroom, humour associated with age ranges, the psychological bases of humour, social dynamics of humour, verbal humour, humour and drama, humour as a coping mechanism, dealing with class clowns, and comic technique in the classroom. Many of the techniques and ideas are supported by research, although the book is intended primarily as a handbook for practising teachers than a research artefact.

Similarly, collections of humor-provoking activities and strategies for teaching have emerged from the accumulated expertise of teachers, entertainers and others working with children (for example, Loomis & Kolberg, 1993; Droz & Ellis, 1996). Others have attempted to promote particular styles of learning through humour, such as critical or divergent thinking (for example, Stopsky, 1992). Overviews of the practical and theoretical uses of humour in specific areas have been developed, such as in children’s literature, for example, Mallan (1993).

Collections of children’s verbal humour have been published in both children-friendly joke-book format and also in a somewhat more reference-oriented style (e.g. Adams & Newell, 1997). Educators have also collected or documented humorous items in more specialized fields such as mathematics (Vinik, Silvey & Hughes, 1978). These collections are published

largely as resource material with little analysis of the humour demands or potential uses of the material, leaving this largely to the teacher.

Ziv (1979) looked at the impact of teacher humour on classroom environment as mentioned previously. The sociology of the classroom is influenced by many factors and influences many classroom outcomes, but Ziv's view was that ultimately what matters is the learning which occurs within this social setting, and looked at how humour may impact on that from a classroom climate viewpoint. Cazden (1986) sees humour as an agent that humanizes institutions, and this concurs with Ziv's view on the importance of humour in forming the social learning environment in which a child learns. Ziv's conclusion was that children value a sense of humour in children, and that certain types of classroom climate may be predicted based on teacher's sense of humour. Ziv suggested further work in this area might look at classroom interaction analysis directly in order to extend knowledge of the impact of humour on teaching and learning.

Neuliep (1991) investigated the frequency of use of humour by almost 400 experienced high school teachers, the appropriateness (as perceived by the teachers) of several types of humour in the classroom and the reasons why teachers chose to use humour. He compared this with previous research on college teachers' humour (as a large body of research existed in that area). While the results may not directly apply to other populations, he noted that for various reasons high school teachers used less humour (or at least reported using humour less) than college teachers, and in general agreed with previous college teacher views on appropriate humour. While there are limitations to the validity of the reporting process, such as the possibility that high school teachers differ from college teachers in their estimation of how often they use specific techniques, the study still has value.

The uses for humour reported by high school teachers are shown in Table 5.

Table 5. Rank order of most frequently listed reasons for using humour.<sup>1</sup>

<i>Rank</i>	<i>Reason</i>	<i>Number of teacher responses.</i> <sup>2</sup>
1	Puts students at ease, relaxes them or loosens them up	83
2	Attention-getting device	75
3	Shows teacher is human	61
4	Helps keep class semi-formal	55
5 (equal)	Makes learning more fun	46
5 (equal)	Serves as tension releaser	46
6	Maintains student interest	42
7	Helps illustrate a point	41
8	Establishes rapport with students	37
9	Helps students remember a point	36
10	Change of pace/breaks up routine	30

<sup>1</sup> Neuliep, 1991, p. 349. <sup>2</sup> N=388

Humour was used not so much as a cognitive aid as a strategy to modify the classroom environment to make it more conducive to learning. Neuliep also derived a classification scheme for classroom humour using the coding system from this study (see Table 30). While this classification can be criticized for what may appear to be arbitrary delineations or aggregations of humour type, its developers claim that it represents an advance on some previous models (Neuliep, 1991, p. 354).

The school environment is an important one given its role in children’s lives. In dealing with humour in a learning environment, some research has been undertaken to quantify the effect

of humour where it is used directly as an instructional tool within a classroom setting. Much of the research in this area has been based on college-age young adults, and the results are not entirely conclusive. Research into the effects of humour on the success of instruction has given rise to results which initially appear to be conflicting.

While positive relationships have been reported between humour in a learning environment and retention, attention and recall (separately) (Ziv, 1988) there are conflicting results found by others. For example, McGhee (1977, p. 204 ) cites the work of Curran (1972) and Neumann (1972) which detected no significant effect of the use of cartoons as an aid to learning on retention of taught material. This result appears to be at odds with the use of humour in the mass and entertainment media, in which even commercial product knowledge is successfully inculcated using humour.

To some extent the explicit use of humour in teaching involves a teacher taking on a role of entertainer or comedian, which is by no means a simple or easily-controlled task. As professional comedians will testify, a huge number of audience variables affect any attempts to introduce forms of humour into a group, not the least of which is the social structure of the group at the time. What has a significant positive effect in one situation may be disastrous in another, requiring recovery strategies to be used by a skilled practitioner. However, despite this, students' reasons for preferring particular teachers regularly refer to her/his sense of humour or capacity to make learning fun (not necessarily the same thing).

Kaplan and Pascoe (1977) identified that the effect on retention of material illustrated by humorous examples is highest when the examples are related to the material itself (as opposed to humour used as a general motivational or presentation tool). The implications of this study for classroom practice are that it is not enough to employ humour; that humour

must be directly related to (presumably) the most significant aspects of the material being taught (Zillman & Bryant, 1983).

The author has experienced a particularly interesting variant of this phenomenon while a student in a training program in which workplace supervisors were receiving an outline of basic evaluation methodology. In order to introduce the Hawthorne Effect (the effect of attention of any sort on performance) and its impact on assessment practices, the presenter alluded to the Hawthorn Football Club (a well-known Australian Rules Football team), and told an amusing anecdote about how the Hawthorn team would play better against its rival Collingwood if its supporters showed their attention, either positive (by cheering) or negative (by booing). When the author met some of these participants some months later, several of them recalled the concept accurately but mistakenly referred to it as the Collingwood effect. While the retention of the concept was enhanced, the humour actually interfered with the accuracy of retention of factual material.

The effects which result from humour outside of direct instruction are similar to those in the classroom, with the obvious difference that they are largely out of the educator's control. However, encouraging students to seek out and enjoy relevant humorous material such as cartoon series (the Gary Larson cartoons, for example, contain a series of themes centred on primitive life forms, scientists, and the folly of human behaviour), satirical works and comedy programs can assist students to see some of the less entertaining material in a light-hearted manner. Practising teachers are well aware of the motivational effect of comedy in film and television and the way in which it can influence student perceptions. Should fortune provide such material directed at a teacher's area of the curriculum, it seems logical to make use of it.

In looking at how sense of humour links with general competence, Masten (1986) investigated how several measures of humour correlated with several measures of competence such as classroom behaviour, peer reputation and academic achievement in children aged 10-14 ( $n=93$ ). Her results indicated a positive correlation between humour and competence. In particular humour production, comprehension and mirth correlated with academic competence ( $r=.53$ ,  $.61$  and  $.38$  respectively) and social competence. The social competence included both teacher-assessed and peer-assessed measures. The same three humour measures were also strongly correlated with IQ ( $r=.50$ ,  $.55$  and  $.33$  respectively). Causal relationships were somewhat harder to identify, but Masten identified that the IQ and underlying social-cognitive abilities may underly both academic achievement and social competence, and also increase the cognitive capacity of a child to appreciate subtle aspects of humour stimuli (in this case, cartoons) such as irony or components that require social knowledge. Additional explanations are that motivation may be higher in higher-ability children, especially in relation to performance-oriented tasks, and this was supported by higher levels of cooperative-initiating behaviour. Masten (1986, p. 472).concludes that humour may be related to competence in three ways:

- (1) through the manifestation of intellectual ability both in competent functioning at school and in humor comprehension, appreciation and production,
- (2) through the role of mastery motivation in enhancing humor responsiveness and skills as well as competence at school,
- (3) through peer relations, either by humor behaviors influencing peer reputation, or being influenced by peer reputation or, most likely, by both.

Work by Wanzer and Frymier (1999) examined the interaction between the sense of humour

of teachers and that of students, and its impact on student learning. Using a broad measure of Humor Orientation (HO), they identified that students with high HO reported that they learned more with a teacher with high HO. The learning measure was based on a combination of an affective learning instrument and an 8-component Learning Indicators scale, both of which used student responses (rather than achievement measures). The results therefore are indicative of learning climate and attitude rather than simple achievement. While this study was based on university-age students, the relationship between a positive learning environment and student/teacher sense of humour is one which appears to merit further investigation, especially in the public education system.

In a qualitative study in English language classes of non-English-speaking adult learners, Senior (2001) looked at relationships between class cohesion and humour. Her study involved the examination of the strategies used over time by the teachers involved. In order of use these were:

- humour used initially to set class tone,
- encouragement of specific students to develop laughter and humour generating potential
- developing a common class culture through shared jokes and humorous experiences
- affirming class solidarity through group laughing.

Senior found that teachers used humour to foster class cohesion and valued humour highly. As class cohesion was seen as a desirable characteristic, she investigated the perceived link between cohesion and humour (more accurately, whole-class humour). She found that



teachers believed that high levels of whole-class laughter corresponded with high ranking of cohesiveness, and low levels of laughter with low cohesion. In many cases the humour was specific to the class; for example, it might involve the use of nicknames based on student peculiarities or self-parody by the teacher. While there are limits on the inferences that can be drawn from Senior's study it is clear that the nature of the classroom environment is influenced by humour in quite complex ways.

Gürtler (2002) identifies the significance of humour in learning environments, and moves investigation away from direct measures of performance towards the impact of humour on the classroom social climate. In the adolescent environment, Gürtler sees humour as a tool to allow higher levels of self-reflection, which provides a means to address social situations and enhance social competence, interaction and collaboration. Gürtler contends that relatively little research has been undertaken in the role of humour as a tool for such personal social development. As a response, Gürtler proposes a model of research that attempts to grapple with the subjective, internal nature of humour, rather than the more readily observable indicators of humour such as making humorous remarks, reacting to cartoons and other identifiable behaviours. He argues that the nature of humour is internal to the individual and subjective, and that while humour may be associated with external reactions, it is not identical to them. Gürtler differentiates between the definitions of humour that correspond to the objective and subjective approaches, seeing the first as "all what is connected to the area of humor/laughing/comic/wit" and the second as "a life style ... which can be described as gaining detachment from oneself, building up tolerance, self-reflection and activity filled with good will intentions towards others" (Gürtler, 2002, p.8).

Gürtler then progresses to propose a model based on

- RST (research program of subjective theories, an action theory model for understanding world views),
- Humanistic psychology (as a guiding tool to develop personal and social maturity,
- Buddhist meditation (Vipassana) as a tool to inspect individual mental habits, as a path to a humorous life style as described above.

Gürtler's studies based on this model used a set of interviews with students (about humour) of roughly 90 minutes duration, aimed at eliciting personal views. The results were published as preliminary, as the complete data ( $N=363$ ) were yet to be processed. Key concepts were extracted to form a concept pool, which was then presented to interviewees who were asked to show the relationships between them as a structure similar to a concept map. A consensus approach is used to finalise the structure.

The process for teachers ( $N = 8$ ) is similar but the interview is instead a group test, centred on nine topics. These topics are given here, from the English translation by Gürtler (2002, p.13).

1. What is humor?
2. The boundaries of humour activity and where does humor end?
3. Humor in class
4. What happens exactly if humor is experienced in class?
5. Who starts humor in class (teacher, pupils)?
6. Negative experiences with humor in class

7. Amount of humor in class
8. Personal changes if the structure of the class could be changed
9. What would be if there were no more humor at all?

Preliminary results of Gürtler's work are summarised below.

For students;

- laughing is important,
- self-reflection plays a part in humour activity,
- teachers are seen as restricting or forbidding humour,
- humour initiated by teachers is different to humour initiated by students,
- there can be too much humour,
- antisocial humour (referred to as "mobbing") was identified,
- humour was seen as vital to life.

For teachers;

- humour can be positive or negative,
- humour is a personality trait but can be developed,
- humour has stages,
- humour is an integral part of life, though not always present,
- wit and laughter are associated with humour but are not humour itself,
- reflection is helpful and may be necessary for humour,

- negative humour can be hurtful,
- most teachers attempt to use humour and would like to increase this level of use,
- teachers were able to identify cases where humour can be used advantageously in crucial social situations.

Gürtler's study, while preliminary, provides insight into aspects of humour as an internal process, and offers a new investigative approach. The approach has limitations, most obviously the time and organisational overhead for interview and analysis. It does not aim to provide a way of describing an individual's sense of humour, nor does it offer a quantitative measure of humour. These properties are important in relating humour to other variables in educational settings.

#### 2.4.2.10.3 Practitioner collations of typical indicators of humour development.

Educators and others who observe and work with children gather knowledge of what is usual or normal in children of a specific age group. Howe (1993) collected such observationally gathered knowledge from a range of school teachers across a range of developmental variables.

Combining the humour component of Howe's work with the summative work of Bergen (1989,1998), Bergen and Brown (1994), Kappas (1967), McGhee (1971,1974a,1974b, 2003a, 2003b, 2003c, 2003d, 2003e, 2003f), and part of an admittedly old study by Wells (1934, pp. 81-91) some broad guidelines of indicators humour development can be framed. These are assembled with the proviso that linkages with age are intended as a guide, and that sequence is of more importance than absolute relationship with age. Individual differences and variation with culture, gender and general developmental state are of course expected within this framework. The combined indicators are shown in Table 6.

Table 6. Indicators of humour response by approximate age.<sup>1</sup>

Typical Age (years)	Indicators of humour response (preferred or evident)
Note: these are approximate and based on norms as perceived by teachers. They will vary between cultures, genders, social climate and experience.	
Birth -1	<ul style="list-style-type: none"><li>Initially, laughter appears as a response to physical stimuli, without obvious cognitive processes.</li><li>Laughter at unexpected or unusual behaviour of parent/attachment figure, eg. physical action.</li></ul>
1-3	<ul style="list-style-type: none"><li>Treating objects as if they were other objects. For example, pretending a shoe is a telephone, and seeing this incongruity as humorous. This relies on mastery of knowledge about the object's real purpose.</li><li>Intentional and playful misnaming of actions or objects. This relies on prior mastery of their real names. It may be seen as an extension of treating objects as if they are other objects, in a linguistic context. Examples include interchanging the names of parents (e.g. Mum and Dad). This type of activity includes a slightly more sophisticated case in which opposites are used (e.g. 'big' used intentionally to describe "small").</li></ul>
3-5	<ul style="list-style-type: none"><li>Initially related to the physical action of speech, hence the formation of phonetically allied nonsense words, e.g. "piggy-wiggy" which create logically-based incongruities.</li><li>Wordplay is based on sound or shape rather than meaning (in the early stages of humour development within this age range).</li><li>Perceived incongruities in behaviour are seen as funny.</li><li>Some clowning, face-pulling seen as funny.</li><li>Pre-riddling begins.</li><li>Low incidence of sexual/bodily function humour.</li><li>Explanations by children of reasons for humour are often incomplete or simply tautological (eg, because it is funny"). When given, they include incongruity of action, appearance or verbalisation, or impossibility.</li></ul>

<i>Typical Age (years)</i>	<i>Indicators of humour response (preferred or evident)</i>
3-5 (continued)	<ul style="list-style-type: none"> <li>• Production of nonsense real-word combinations, where words fit syntactically but not semantically. Examples include phrases such as "I'd like a toasted car"</li> <li>• Distortion and juxtaposition of objects. This includes the adding of non-existent features, and removal of salient ones, eg drawings with horns on humans, cars with no wheels, people with exaggerated features. This behaviour is associated with conceptual thinking, and children are playing with their knowledge of the attributes that characterise objects.</li> <li>• Gender reversal (asserting a knowledge of gender features and typical social roles).</li> </ul>
5-9	<ul style="list-style-type: none"> <li>• Provoked by motor activity</li> <li>• Slapstick, clowns seen as inherently funny</li> <li>• Simple surprise often generates humour</li> <li>• Irony is rarely perceived</li> <li>• Humour may result from situations which are unacceptable within child's social frame of reference</li> <li>• Misery or despair may be seen as humorous, as are mistakes (e.g. referring to the teacher as Mum)</li> <li>• Emerging social consciousness provides a basis for primitive censorship.</li> <li>• Exaggeration of size and reaction</li> <li>• Elementary word play</li> <li>• Simple riddles, initially imitative.</li> <li>• "Knock-knock" jokes, some "Title and author" jokes based on phonology</li> <li>• Play with proper names</li> <li>• Little humour directed at self</li> <li>• Bodily functions, unusual contortions or caricature emerge as source of humour.</li> <li>• Explanations of humour frequently miss the point.</li> </ul>

<i>Typical Age (years)</i>	<i>Indicators of humour response (preferred or evident)</i>
5-9 (continued)	<p>At some stage through this range, children begin to realise that some words can have two or more meanings. This prompts a spate of riddles which children understand. The fact that the child is a keeper of the solution to their riddle also provides them with enjoyment. This stage is seen as emerging at around age 7 years (McGhee 2003e).</p>
9-11	<p>All of the above, plus</p> <ul style="list-style-type: none"> <li>• Emphasis on child's perceived place as an individual in social groupings</li> <li>• Puns and extended word play, awareness of metalinguistics and that language is a thing in itself</li> <li>• Incongruity</li> <li>• Tricks on oneself and others, clowning</li> <li>• Appreciation of existing "traditional" or formula jokes (e.g., joke books)</li> <li>• Some aggression and hostility</li> <li>• Humour in deviation from normal conventions of adult world</li> <li>• Sexual/bodily functions increasingly used as source of humour</li> <li>• Taboo subjects increasingly evident</li> <li>• Jokes about self may be accepted: "self-objectification" develops</li> <li>• Capacity to channel negative feelings into positive humour</li> </ul>
11-14	<p>All of the above, plus</p> <ul style="list-style-type: none"> <li>• Humour based on reflecting on things they did themselves as younger children</li> <li>• Imitating others (esp. authority figures)</li> <li>• Racially-based jokes (Irish, etc)</li> <li>• Joke length increased over younger children, increasing use of repeated phrases within jokes</li> <li>• Clothes, hair styles and other social norms</li> <li>• Humour in their friends being caught daydreaming or inadvertently breaking rules</li> <li>• Explanations of humour more fluent, and include incongruity of action or language, impossibility or conceptual incongruity.</li> <li>• Higher incidence of "getting the point"</li> </ul>

<i>Typical Age (years)</i>	<i>Indicators of humour response (preferred or evident)</i>
14+	<ul style="list-style-type: none"> <li>• As verbal comprehension and word fluency approach 80% of adult level, humour based on verbal concepts is more important to this age range.</li> <li>• Ability to grapple with abstract concepts increases</li> <li>• Ethical development, concept of right and wrong (not necessarily consistent with personal actions), poised on the edge of the adult world.</li> <li>• Verbal wit increasing in dominance (at the expense of visual humour)</li> <li>• Capacity and interest in the feelings of others and how they see him/her.</li> <li>• Concern about effects of unfeeling humour on others (esp. amongst girls)</li> <li>• Directed at teachers, parents and authority figures but also at self</li> <li>• Decline in practical jokes</li> <li>• Joking insults, ridicule and loud humour is common within social groups</li> <li>• Forbidden humour is not as common in group situation as with younger children</li> <li>• Literature of the absurd is popular, then slapstick, satire and whimsy with importance of satire and whimsy increasing with age, and absurdity decreasing.</li> </ul>

<sup>1</sup> Based on Bergen (1989,1998), Bergen and Brown (1994), Kappas (1967), McGhee (1971,1974a,1974b, 2003a, 2003b, 2003c, 2003d, 2003e, 2003f), and Wells (1934, pp. 81-91).

## 2.5 Sense of Humour Scales

The variation in understanding of just what is meant by humour (in both psychological circles and the general public) indicates the difficulty of attempting to measure the sense of humour construct. Any attempt to do so immediately involves some definitions and assumptions about the nature of humour, or at least about the component being measured. A



range of approaches and instruments has been developed, each with significant support and demonstrated utility. Most, it should be pointed out, were designed and/or validated on adults, and many have potential cultural bias.

#### 2.5.1 Personality approaches

The *IPAT Humor Test of Personality* (Cattell & Tollefson, 1966) is based on a set of 12 categories of humour derived by factor analysis, plus a general intelligence factor. These categories and factor effectively allow an individual's humour to be profiled. Ruch (1992, p. 29) presents some reasons for its limited impact on research despite its careful development, including its use of forced choice design. This allowed information on the shape of an individual's humour profile to be obtained, but was incapable of determining its level. Ruch also claims that this masked the fact that the first factors emerging from factor analytic studies of humour items are related to the structure of the items, not their content or theme (Ruch, 1992, p. 28). He also notes that the design forced over-extraction of factors, as few subsequent studies extracted more than 4 factors. The IPAT test was also not closely linked to general humor theories and has not found widespread use.

#### 2.5.2 State and trait measures: STCI

A significant issue in any approach to humour measurement (and other sorts of human behaviour) is the distinction between state and trait variations. This distinction recognizes that the behaviour of individuals at any given time may vary over time (state variations), influenced by a range of variables, yet some basic characteristics are fairly stable over time (traits). The *State-Trait Cheerfulness Inventory* (STCI) developed by Ruch, Köhler, Deckers

and Carrell (1994) and reported in Ruch, Köhler and van Thriel (1996) identifies the three concepts of cheerfulness, seriousness and bad mood as dispositional variables, each broken into 5 or 6 facets. The STCI instrument allows the assessment of the three concepts as both states and traits. This is not a measure of sense of humour, but provides information on the traits forming the temperamental basis of the sense of humour (Ruch, Köhler & van Thriel 1996, p. 311). The STCI authors point out that the instrument has an equally useful role in identifying aspects of humourlessness: while serious-trait individuals and those in a bad mood may both exhibit a lack of humour at a specific time, they do so for quite different reasons. From a classroom perspective this is useful knowledge: for example, the serious-trait individuals are less likely to engage in humorous behaviour at any time and may be hostile to a cheerful group, while a serious state affects the individual only in a temporary capacity.

The trialing and validation of the STCI was performed on samples from the adult population, with the original German-language STCI instrument. An English-language version was piloted, again with adults. Although a child version would be useful, there is a possibility that the inventory may be useable by adults to report on children, in situations such as those of parents, school teachers, long-term child careers, counsellors and those managing children in long-term hospitalization.

It appears that most other measures of sense of humour measure state variables (as is the case with, say, performance and response tests) or infer trait conditions by referring to general behaviours, such as “I use humour to entertain my friends”. There is a risk that self-reports may be affected by state changes when these methods are used to assess traits, although repetition and peer-reports go some way to reducing this problem. Regardless, state changes

are a potential source of extraneous variance in self-report measures.

### 2.5.3 Coping humour scales

As one use of humour is to facilitate coping, there is obvious value in a process which assesses an individual's propensity or capacity to use humour in this role. One approach is that of the *Coping Humor Scale* (CHS) (Martin & Lefcourt, 1983) which uses a self-administered, 7-item instrument based on self-descriptive statements to determine the degree to which individuals report using humour to cope with stress. This instrument has been subjected favourably to test-retest trials and also correlates well with peer assessments of the same construct (Martin, 1996). CHS appears to be unifactorial and the score it produces has been shown to be correlated positively with self-esteem, optimism, extroversion, sense of coherence and stability of self-concept. CHS score correlates negatively with neuroticism and dysfunctional attitudes (Martin, 1996, p. 270).

As an instrument for classroom use, the CHS clearly has use for measuring one specific aspect of an individual's use of humour. In terms of evaluating self-esteem-related personality traits or states it has educational importance (as these have an impact on learning and school performance) and may provide a basis for intervention in cases where students are exhibiting ineffective coping strategies. The CHS is, by definition, not intended to be used as a general sense of humour instrument, but used within its intended purpose it has value.

### 2.5.4 Behaviour -based humour scales.

Scales which attempt to measure outwardly observable behaviours or self-reports of predicted behaviours are yet another approach to measuring an aspect of sense of humour.

Some scales use reactions to real or imagined situations as a basis for eliciting a response, while others use set artificial humour stimuli, most often cartoons, and ask for subjects to rate or rank them in some way.

Both of these approaches have merit. The difficulty in ensuring that individuals attach the same degree of realism to imaginary situations, and the inevitable difference between predicted response and behaviour, place limits on the first approach. The cultural components underlying cartoons complicates the interpretation of reactions to them, as does the novelty and currency of the cartoon content. The widespread occurrence in wider society of syndicated cartoons means that individuals may develop a preference or dislike for certain cartoons (or certain styles), which will then influence their rating of the humour, thus compromising the instrument validity.

The *Situational Humour Response Questionnaire* (SHRQ) (Martin & Lefcourt, 1984) provides a self-report instrument which is based on subjects' reports of what they believe they would do in various real or imagined situations. This offers some advantages over straight questioning of views, as it provides the opportunity for subjects to visualize rather than recall. The SHRQ has been trialled in at least 10 languages, subjected to test-retest analysis, and validated by correlation with laughter response measures in interviewed subjects and peer interviews (Martin, 1996). The extensive testing validated the belief that SHRQ provided a measure of general propensity to display mirthful behaviour, and a (weaker) measure of the ability to create humour. As such, it can be considered a measure of at least some aspects of the sense of humour construct. Martin (1996) points out that what it measures may not be the totality of what some people define as humour: "SHRQ was susceptible to the criticism that it fails to adequately assess the perceptual, cognitive, and

emotional processes that seem to be an essential part of what most people conceive sense of humor to be” (p.254).

As the SHRQ is based on situations, it relies on individuals having sufficient experience in a social setting to be able to accurately describe their likely action. This reliance is problematical when dealing with children: for example, Item 7 refers to days where one has “absolutely no responsibilities or engagements”, a situation which many children would find hard to conceptualize due to their level of parental supervision. While many of the items do apply to children’s lives, their understanding of what they might feel requires a significant level of self-knowledge which is not guaranteed. It also involves a considerable amount of reading, largely due to the individual responses given for each item (as opposed to a Likert scale which requires a child to read it only once as it is common to all items). The SHRQ could be rewritten using child-based situations and re-validated using a process analogous to the original, to yield a more useful instrument for children in a classroom setting.

The *Multidimensional Sense of Humor Scale* (MSHS) developed by Thorson and Powell (Thorson & Powell, 1993a) uses a 24-item questionnaire with Likert-scale responses. The item set has been refined and validated on a range of adult populations, across several countries. The MSHS was explicitly designed to cover a range of humour dimensions although current scoring aggregates these into a single measure.

MSHS has been shown to exhibit four major underlying factors. The items are self-reports of behaviour and attitude, rather than responses to humour stimuli, which provides some opportunity for it to be used by people who know a subject well in addition to its original self-report format. The language used in the current version gives rise to comprehension problems if used with children, and it is based on adult manifestations of humour.

*The Humorous Behavior Q-Sort Deck* (HBQD) developed by Craik, Lampert and Nelson (1996) provides a set of 100 items which are intended to be used in a sorting process based on the Q-sort methodology. The sorting process allows the relative importance of the items to a subject to be measured and could be used to determine individuals' self-assessment of their humour preferences, the perceived importance of aspects of humour socially and various other measures where relative value is involved. The original set of items was deemed to be too large for the study on which this research is based, as the sorting process was too complex and time-consuming for children. A subset of 48 items, selected on the basis of the highest loading on each of the factors identified in previous factor analysis published by the authors, was re-written for language appropriateness and trialled with a small number of children as part of the current study. However, the time for sorting, the confusion between the task of sorting and the ranking of the items, and the physical problems of the sorting process (dropping cards, etc.) indicated that this process would only be practical with children in a one-to-one environment or possibly via a computer-managed process. It was not suitable for classroom administration in its current form.

Ruch's *3WD Humour Test* (Ruch, 1983, 1992) consists of written jokes and cartoon stimuli which are rated by subjects on two 7-point scales, for funniness and for aversiveness. The scale resulting from the funniness ratings represents the positive responses to humour such as exhilaration and laughter, while the scale resulting from the aversiveness ratings represents the negative responses such as boredom and embarrassment. The instrument was developed using a categorization of three stimulus factors, Incongruity-Resolution, Nonsense and Sexual Humour (which were obtained from factor analytic studies of jokes and cartoons, and reflect their structure rather than their theme or content), from which the name 3WD (3 Witz-Dimensionen) is derived. Ruch developed and validated (with others) two matched versions

of the 3WD instrument, and has since used it to investigate the role of a range of personality and attitude variables in humour.

As an instrument for children, the 3WD Humor Test faces some obstacles. The first and possibly most obvious is the relatively high level of language skills required (most children are unaware of the meaning of “aversiveness”, for example). This language requirement is not unusual for an adult-based instrument and is reasonably easily overcome with alternative text or assisting staff. The second difficulty is the assumption that children’s humour is identical to or can be measured in the same way as adult humour. This assumption is most obvious in the Sexual Humour structural category; for many children, the sexual humour would be seen as either unintelligible, rude rather than funny, or humorous for reasons other than those which apply to adults (e.g., a child may see an item as funny simply because it involves a naked man). Thirdly, there is an assumed adult knowledge base which is not always present in children: for example Item 12 in the B Version of 3WD involves an elderly lady withdrawing all her money from a bank and re-depositing it immediately, just to check it was still there. To a child, that is perfectly logical as many children see a bank as literally storing their money in the same way as a piggy-bank, and thus would expect the bank to have their money stored in a container with their name against it. Concern was also raised by teachers as to the appropriateness of using it with children due to the sexual content of some items.

In terms of principle and method of approach, the process underlying 3WD is rigorous and could be applied to developing a children’s version of the instrument. However the adult version cannot be validly applied to school-age children without significant levels of supervision, which limits its applicability to bulk testing.

The *Sense of Humor Questionnaire* (SHQ) (Svebak, 1996) provides a multi-scale tool for measuring several aspects of sense of humour. The development of several generations of SHQ variants has addressed some earlier criticisms, and the current model is a short six-item instrument which aids in administration efficiency. It has been based on three subscales, these being meta-message sensitivity (the ability to perceive humorous cues in a situation), liking of humorous situations, and socio-expressive permissiveness (the extent to which an individual expresses his or her emotions, including laughter). SHQ has been developed and validated on adult subjects, although reliability has not been high.

The development of instruments which reliably gather a wider range of humour data has led the current study to use instruments other than SHQ at this stage. These are discussed in Section 3 (Method).

#### 2.5.5 Performance-based humour production scales

Apart from audience-response ratings of humour production (as endured by stand-up comedians the world over), most formal instruments of humour performance rely on a completion task. There is a substantial body of research using caption-removed cartoons or still pictures in which subjects were asked to design humorous captions. Peer-rating of the completed cartoons provided a measure of humour creation performance. The studies include those of Babab (1974) and Clabby (1980) attempts to produce a standardized instrument have been made by Köhler and Ruch (1993) in the form of the *Cartoon Punchline Production Test* (CPPT). The *Humor Initiation and Responsiveness Measure* developed by Bell, McGhee and Duffey (1986) also provides a measure of frequency of humour initiation, although it uses the frequency of production of humour as a measure of humour production,



without attempting to quantify the quality of such humour.

As jokes are a reasonably well-defined humour format, it is not surprising that a similar approach has been taken with them. Feingold and Mazella (1991) used both joke reasoning and joke creation as bases for instruments to measure the cognitive and production aspects of humour.

While these types of instrument appear to be well-suited to use with children, especially as they offer a solution for low-literacy students, some care needs to be exercised in the process of using them in their original form. Many of them have a “test” format which in some children is equated with the need to “get the right answer” or to produce a response which is likely to please their teacher. Some material involves an adult knowledge of society, or contains potentially tendentious or controversial material, and hence is not readily useable with children.

The underlying concept of a humour production task is not unlike that of a creativity task. Almost by definition, there is no objective way of ranking a set of humorous responses: most attempts, if not all, use some sort of audience response process. The range of humour formats which lend themselves to readily-administered humour completion tasks also limits the types of humour responses which this type of task can detect: for example, the physical slapstick humour which one sees in school playgrounds, and the quick repartee in conversation are not readily measured on set tasks. Despite these objections, the use of performance-based measures of humour response remains valid and allows some quantitative information to be gathered on humour production.

### 2.5.6 Peer reporting

Given the difficulty in defining humour in a form which transports readily between cultures, age ranges, languages and eras, it is difficult to measure sense of humour in a form which is similarly transportable. This is a particularly difficult issue when dealing with children, as adult-based understandings of humour (for example, wittiness, political satire) may have little relevance to humour in children, while child-based humour items (for example, nonsense rhymes) may be seen as non-humorous by adults.

One approach to this dilemma is to use a peer-defined measure of sense of humour. This gives a measure according to the standards of the peer group. It should be noted that as a result, measures are likely to have validity to the extent that we accept a definition of humour that allows for context such as culture or peer group. Several instruments have been developed along these lines, including that of Bizi, Keinan and Beit-Hallahmi (1988), one version of the STCI instrument of Ruch, Kohler and van Thriel (1996), and the sociometric instrument of Ziv (1984).

An underlying issue with any self-reporting process is the introduction of a largely uncontrolled source of inter-rater reliability. Peer reporting provides a way of identifying the general correlation between individuals' self-ratings and the ratings of them by their peers. This correlation then provides a mechanism for using self-rating by individuals, justified by validation across a larger group. Thus a peer rating and a self-rating appear to provide a reasonable base for study of individual sense of humour measures.

### 2.5.7 Classroom-useable instruments

While there are significant and extensive research studies in the areas of humour theory, measurement of sense of humour, humour as a correlate of learning ability and learning outcomes, and development of sense of humour in children, there are several gaps remaining in the research.

In particular, there appears to be little material that can be used directly by a teacher to inform daily practice, or to assist in applying the vast knowledge assembled in humour research to enhance teaching or classroom management. Teachers who were approached during the course of this study expressed a need for a tool or interpretive process which was based on research but which could be used under classroom conditions to provide information which was useful and directly applicable. Tools which required clinical conditions were deemed to be of limited use to teachers, a view supported by the low level of use of other diagnostic tools in classrooms. From this perspective, self-administered tools were seen as useful, especially if they produced a report that was easily interpreted without reference to statistical knowledge or external reference standards.

In discussing with teachers how a sense of humour tool could be used in the classroom, a few clear ideas emerged. Knowing student scores on a humour scale was perceived to be of limited use, especially in the absence of associated teaching strategies. A profile which showed the relative strengths and weaknesses of individual students was seen as having merit, especially if the components or dimensions of this profile were readily interpretable. Teachers were aware that their sense of humour and those of the students were a factor in the establishment and maintenance of a learning environment, but were unsure of the exact

mechanisms involved. Several commented that sense of humour contributed to both the best and worst types of classroom climate, and that it was not always clear why either of these extremes emerged in some cases. One teacher described humour as a powerful force which was capable of steering a class towards either of two extremes, but which had no clear control process.

## 2.6 Interaction between student and teacher sense of humour

The work of Wanzer and Frymier (1999) uncovers some significant insights into the relationship between attitudes to learning and the similarity of teacher and student sense of humour. It is one of the few works that identifies that the sense of humour of student and teacher do not operate independently to influence classroom climate or attitudes to learning. Rather, there is evidence that classroom climate may be influenced by the similarity (or otherwise) of student and teacher sense of humour. This area is worthy of research as it brings the classroom climate and attitude to learning down to an individual level, rather than a group level. For classroom teachers working with students in the compulsory schooling age range, this is vital. It may be less vital for people teaching larger groups in say a lecture environment, as there is less ability to deal with students at an individual level.

This in turn indicates that it was worth investigating how the quality of individual teacher-learner relationships is influenced by the relationship between the sense of humour of the teacher and the sense of humour of the learner. It was seen to be important to include the various dimensions of sense of humour, rather than a single measure, as at the level of individual interaction these are recognisable and possibly controllable by a skilled teacher.

## 2.7 Summary

The overview given in this section shows the breadth and depth of current humour research. While the field of humour and education has been investigated thoroughly over a long period of time, there has been relatively little work undertaken in relation to sense of humour within a classroom environment, and where this has been undertaken it has mainly been in tertiary settings. Some findings in the tertiary sector are likely to be transferable to a school setting, but there are clearly many unique characteristics of school-age students that point to the need for specific research in the compulsory schooling age range. Additionally, in most countries almost every child has significant contact with a school system, and hence knowledge about the role of humour in a school setting has the potential to provide significant benefit.

## 2.8 Specific Research questions

This study will examine the role of humour in school classroom settings, and the ways in which it may influence teacher-student relationships. In particular, it investigates the ways in which the similarity or otherwise of student and teacher sense of humour profiles contribute to the quality of relationship between student and teacher.

By investigating how the various components of student and teacher sense of humour contribute to the relationship between student and teacher, this study provides a way for teachers to explain and possibly identify in advance the types of interaction which they might expect, use or avoid with specific students.

Therefore, the study will examine the specific Research Questions below.

1. To what extent does a self-report measure of a child's sense of humour agree with

measures of the child's sense of humour made by peers and adults?

2. How can teachers efficiently measure and diagrammatically represent sense of humour profiles, in such a way that comparisons and contrasts can be readily made?

3. How can similarities and differences between two Sense of Humour profiles be quantified?

4. What are the relationships between the various components of student and teacher sense of humour profiles that are associated with a positive student-teacher relationship?

### 3.0 METHOD

The evaluation of sense of humour poses significant methodological problems even in a controlled environment. The added constraint of designing processes that can be used routinely in a school environment adds complexity to the task, but is essential if the results of the research are to prove useful to practising teachers.

The study began by identifying suitable instrumentation, and validating this instrumentation within the likely age range and cultural setting in which it was to be used. It then proceeded by using this instrument to investigate the linkages between the similarities of sense of humour profile of teacher and student, and the type of relationship between teacher and student.

#### 3.1 Overview of Method

This study consisted of three parts: a Pilot Study, a First Administration (Study 1) and a Second Administration (Study 2). The Pilot Study and Study 1 were a passive correlational design, while Study 2 consisted of a passive correlational design for one component with a between-groups passive design for a second component. Evaluation and selection of a suitable type of instrument was undertaken prior to proceeding with the three parts.

The subjects for the study were adolescent students within the upper age range of compulsory schooling.

The Pilot Study was undertaken to select, adapt and validate suitable instrumentation, The Pilot Study also validated the quantification of sense of humour in a Sense of Humour profile format based on identified factors which were derived from factor analysis. The stability of the factor structure of the instrument was verified as part of this process.

Study 1 was then undertaken to extend the data collected in the Pilot Study to a wider group of students and staff and to address the research question “to what extent does a self-report measure of a child’s sense of humour agree with measures of the child’s sense of humour made by peers and adults?” Study 1 was also used to investigate the ways in which similarities in Sense of Humour profile might be measured and represented in a form that teachers could readily use. In doing so it addressed the questions “how can teachers efficiently measure and diagrammatically represent sense of humour profiles, in such a way that comparisons and contrasts can be readily made?” and “how can similarities and differences between two Sense of Humour profiles be quantified?”

Study 2 was undertaken to extend Study 1 and to address the questions “what are the relationships between the various components of student and teacher sense of humour profiles that are associated with a positive student-teacher relationship?” and “in what ways does the similarity or otherwise of student and teacher sense of humour profiles contribute to the quality of relationship between student and teacher?”

The investigation within Study 2 was undertaken using a correlative approach, investigating the relationships between humour characteristics for students and their preferred teachers. The data in Study 2 were compiled from a range of sources over a period of several years, with a capacity for tracking some individual subjects over that period if required. An expert group of experienced teachers was used to assist in interpreting the findings from a school perspective.

From this set of processes, data concerning the Sense of Humour Profiles of students and their preferred teachers was available for analysis. This analysis is described later.



## 3.2 Instrumentation

### 3.2.1 Instrumentation gaps, and the need for development of a modified instrument

The overall goal of this study was to examine relationships that exist between student and teacher sense of humour, and to investigate the specific nature of these relationships between students and their preferred teachers. To do this, it was necessary to have a process for measuring and portraying sense of humour.

One obvious difficulty encountered when dealing with humour is the difficulty of measuring an abstract and highly personal construct. This difficulty poses significant methodological challenges. At the same time, classroom teachers expressed a concern that many educational testing instruments are unusable within a classroom setting as they are unwieldy, time-consuming and complex to analyse. In order for an instrument to progress from being a research tool to an aid for educational planning, it had to provide perceived benefits without an excessive workload.

Clearly it was necessary to consider an instrument which was psychometrically sound but which at the same time was suited to use by ordinary teachers without the need for external support. While a clinical model may have provided the opportunity for extensive interview processes, the intrusive nature of such an approach was not likely to be accepted in a classroom. An interview approach was seen as impractical for gathering large quantities of data to provide generalisability to a wider population, and was at risk of lacking authenticity. On the other hand, a classroom setting has its own demands and the instrument used in the study needed to be minimally intrusive. The instrument could not present an unsustainable additional load on teaching staff who were volunteering their assistance for the study. This

indicated the need to take an approach which was sufficiently elegant and efficient to gather valid data with minimal teacher and student effort.

### *3.2.1.1 Instrument selection and development from existing instruments.*

Conversations with a range of 35 teachers across sectors of public education revealed some reasons why standardised or diagnostic testing (of a range of educational variables) is not used routinely, and why some instruments are only used when a problem arises or when intervention is necessary. Setting aside a large number of reactions to the politics of externally mandated standardised testing, the common reasons given for avoiding testing instrument are given below.

These reasons given were that some testing was:

- intrusive on classroom practice (“I don’t want to have to disrupt the class to test them, and then have to plan for testing the kids who are away”),
- time intensive (“Using the test takes at least an hour and then you have to collate and mark all of them”),
- intensive on staff (“[school] doesn’t have spare staff to look after the kids who aren’t being tested”),
- expensive if commercially distributed, (“it’s not affordable to test every kid and so we only resort to this in serious cases”)
- slow to provide feedback if externally managed,
- requiring experts for their administration and/or interpretation,

- often resulting in unhelpful labelling (“all that results is that the kid is seen as failing”)
- generating data that did not lend itself to action (“we get the results back but we don’t have any resources to address the problems that are identified”).
- Not always useful (“mostly they just tell you what you already know from your observations in class”)

Consideration of these reasons suggested some properties which would increase the likelihood of an instrument being used. In order to be useful to teachers for dealing with children in a classroom environment, an instrument requires several characteristics which differ in some ways from those of an instrument designed for clinical use.

#### 3.2.1.1.1 Desirable characteristics of a classroom-focussed instrument

In order for a classroom-focussed instrument to be useful, it needs to address several requirements of classroom practice.

*Firstly*, the instrument should be capable of self-administration, preferably by a class doing so in a group for reasons of efficiency. It should intrude only minimally on classroom routine, and should be able to be completed in perhaps 15 minutes of class time. The instrument should be capable of being administered under a range of conditions: this may include administration during pastoral care sessions, on the spur of the moment such as when an unexpected free period of time arises, or as part of bulk pre-testing at the start of a school year. This last point is crucial: while better information on a student can be gained through extended observation, instruments that depend on this are of little value when a teacher is faced with thirty new students at the beginning of a school year, none of whom are known to the teacher and few of whom know one another.

*Secondly*, an instrument suitable for school use should be able to provide information which is readily interpretable by a teacher in the course of their classroom planning. The information must be useful in classroom operation, and should not simply tell teachers what they already know from observation: it should certainly agree with observation, but should allow teachers to rapidly gain an insight which would otherwise require longer periods of observation, and on which the teacher can act to maximise educational outcomes.

*Thirdly*, the instrument should produce information that can be used in some predictive or diagnostic fashion, or in a form that is conducive to use in planning. It is not difficult to compile inventories of data on individual children, but unless there are some relatively simple ways in which this information can be used to inform classroom practice, the inventories run a very high risk of becoming dead information. Thus a set of guidelines on the way in which the instrument can be used (for example, how it might help identify students who are likely to exhibit problematic social behaviour) are highly desirable.

While these constraints are not ideal for psychometric test design, they are based on pragmatic reasons which cannot be ignored. The alternative would be to produce an instrument with very high levels of rigour, but which would not be used by practising teachers for reasons of time, administrative difficulty or failure to deliver appropriate benefits for the effort required. While the latter alternative would have merit in a clinical setting it would not meet the day-to-day requirements of classroom teachers.

#### *3.2.1.2 Preliminary exploration of instruments: Sorting instrument.*

After consideration of the options, a self-administered instrument was decided upon, primarily on the basis that long-term classroom use and acceptance of the instrument would only be realised if the administration could be performed simply and without disruption to

normal teaching programs.

The initial empirical component of this study began with a pre-pilot trial to examine a variant of the sense of humour instrument used initially by Craik, Lampert and Nelson (1996).

Although the original instrument had been trialled by its developers, its suitability in a classroom setting was unclear. This instrument was based on a Q-sort methodology, and its original use had been to derive major components of sense of humour. By having subjects sort a similar set of items based on degree of agreement, it was anticipated that a profile of sense of humour could be derived for individuals.

An instrument was derived from the original 100-item instrument, the first model being constructed by examining the data from Craik, Lampert and Nelson's original study and identifying the items which achieved the extremes of correlation (positive and negative) on each of the 5 factor poles. The 10 most strongly correlated items (5 positive, 5 negative) for each factor were selected, and examined for their transportability into the Australian environment.

After some re-writing to accommodate language differences, these 50 items were trialled with two groups; firstly to identify structural problems as seen by adults, and secondly to gauge the time for administration with the target age range. The items were printed onto small business-card-size paper cards and laminated, with the multiple sets being colour coded to facilitate keeping them together. A printed grid with spaces for fixed numbers of cards at each level was produced to force a sort into specified numbers of cards at each level of agreement.

The *first trial* of this card-sorting process was undertaken in small groups with 19 young adults in a Youth Hostel environment, and indicated that the sorting process was time-

consuming and posed some mechanical problems, such as losing cards and accommodating changes in the perceived level of agreement. This was the cause of some frustration on the part of the subjects, who were keen to produce a “perfect” sort and found the ranking of 50 items involved too high a level of detail for this to be achieved. The nominal completion time of 10-15 minutes (seen as a desirable maximum by the bulk of teachers) was not met, with repeated re-sorts extending this time.

The *second trial* with 11 different adolescents confirmed the results of the first: teenage students found some minor problems with language, but the complexity of the sorting task and the physical difficulty of performing the sort without misplacing pieces led to frustration. High levels of motivation were needed to generate a sorted set with which the student was happy, and in most cases distraction preceded completion of the task. As the instrument was to be administered in bulk in a classroom there would be little or no time for subjects to successively refine the sorting process. In addition, there were complications caused by the inevitable dropping of cards and cross-mixing between subjects. It was clear that the physical sorting process was unsuited to the intended use of the instrument in this study, and to ongoing use in classroom settings, despite the potential value of a process that allowed subjects to define structures in a way that would be difficult to achieve using other approaches. The investigation of instruments based on card sorting was thus terminated due to unsuitability in a classroom environment.

The range of available validated and accepted Sense of Humour instruments was investigated further to ascertain a suitable alternative. After consideration of alternatives, the *Multidimensional Sense of Humor Scale* (MSHS) developed by Thorson and Powell (1993a) was seen as the option which best fitted the requirements and constraints. The MSHS

provided a multi-dimensional measure (in the sense of providing a single measure based on multiple dimensions) extensively trialled (in adult form) and readily adaptable to self-administration by school-age students. As the instrument was to be used outside of the setting in which it had been validated, some changes and re-validation were necessary. These are discussed later.

### 3.2.2 Development of MSHSYA

The *Multidimensional Sense of Humor Scale* (MSHS) is an instrument developed by Thorson and Powell (1993a) in order to cover what they perceived as omissions in other instruments purporting to measure the Sense of Humour construct. Although the scale has been validated as a self-report instrument on adults across a range of ages, cultures and languages, it had not been applied to children at the time of selection. The scale also had not been used as a tool to report on others; for example, a teacher using it to quantify a child's sense of humour.

Accordingly some modifications were made as described in this section.

The initial MSHS items are as shown in Table 7. These item numbers are those used by Thorson, Powell, Sarmany-Schuller and Hampes (1997, p.607). Their order differs from that used in the previous studies using the MSHS such as Thorson and Powell (1993a), though the items themselves are identical. Factor loadings are from the same study, with the largest sample tested up to that date, 612 respondents (301 males, 311 females) ranging from 17 to 92 years of age with a mean age of 43.3. years, standard deviation 26.9 years. The factor loadings were obtained by varimax factor rotation on the original dataset.

Table 7. Factor loadings of MSHS items <sup>1</sup>

MSHS #	Item	Factor			
		I	II	III	IV
1	I can often crack people up with the things I say	.80			
2	Other people tell me that I say funny things	.78			
3	I'm regarded as something of a wit by my friends	.80			
4	I can say things in such a way as to make others laugh	.81			
5	I sometimes think up jokes or funny stories	.74			
6	My clever sayings amuse others	.80			
7	I'm confident that I can make other people laugh	.80			
8	People look to me to say amusing things	.80			
9	I use humour to entertain my friends	.75			
10	I can ease a tense situation by saying something funny	.75			
11	I can actually have some control over a group by my uses of humour	.75			
12	People who tell jokes are a pain in the neck			.67	
13	Calling someone a "comedian" is a real insult			.67	
14	I like a good joke				.67
15	I'm uncomfortable when everyone is cracking jokes			.60	
16	I dislike comics			.63	
17	I appreciate those who generate humour				.79
18	Uses of wit or humour help to put me at ease				.70
19	I can use wit to help adapt to many situations	.57			
20	Trying to master situations through use of humour is really dumb			.56	
21	Humour helps me cope		.72		
22	Humour is a lousy coping mechanism		.51	.56	
23	Uses of wit or humour help me master difficult situations		.80		
24	Coping by using humour is an elegant way of adapting		.72		

<sup>1</sup> Thorson, Powell, Sarmany-Schuller & Hampes (1997).



The first column of Table 7 (MSHS #) gives the number of the item on Thorson and Powell's MSHS instrument, which has been retained so the results of this study can be compared to other studies performed using the MSHS instrument.

As can be seen, the original numbering corresponded closely with the factor loadings, which means that a child filling in the instrument sequentially may unconsciously or otherwise detect similarities in the questions. This is particularly evident in the first eleven items which load heavily on Factor I; a factor involving elements of social uses of humour and humour creativity. A child detecting these similarities may see an underlying personal trait (for example, that they are not spontaneous producers of humour) which may affect the ways in which they complete subsequent items within this subset. Accordingly, the items loading heavily on Factor 1 were distributed more evenly, followed by factors III, II and IV. In addition, the proximity of items 21 and 22 was eliminated as they may be understood by children as asking the same thing in two different ways, in which case the ratings would simply be placed as mirror images about the centre of the scale rating.

The resultant modified MSHS item list became that shown in Table 31 (Appendix K).

This modification gives a more equitable distribution of the items loading on each of the four factors and reduces the problem of sequential items.

A child survey form was developed using this ordering. It was presented separately to an expert group of five qualified and experienced teachers. Some concern was raised by the expert group over the interpretation of the word "comic" as used in MSHS # 16, as it can mean either "comic book" or "comedian" to school-age Australian children (the

predominant target subjects of the research). The meaning in mainstream US culture was sought and the principal author of the MSHS instrument was contacted to establish the intended meaning. Based on the responses, the item was adjusted to “I dislike people who try to be funny”.

The draft instrument was then presented, separately, to a range of eight people working with children including qualified and experienced primary school and high school teachers and teachers of remedial English and literacy support. Suggestions as to the likely complexity of the items were invited. These included the removal of some of the colloquial terminology and some simplification of expressions. This resulted in yet another version, as shown in Table 32 (Appendix K).

At this point in the study, the work of Dowling and Fain (1999) was published, in which a similar instrument was described. As well as some changes in presentation style not given here, Dowling and Fain had derived child-friendly versions of the MSHS items, performed validation and established psychometric properties of this instrument for a school-age population. Correspondence with one of the authors, Jackie Dowling, indicated that their research had significant impact on the MSHS instrument. Accordingly their instrument (MSHSC) was considered as either a replacement for the modified MSHS or as a basis for further modification.

The Dowling and Fain (1999) instrument used the items shown in the MSHSC column of Table 33 (Appendix L), with responses to the first 18 items being on a 5-point Likert scale of *Never, Almost Never, Sometimes, Almost Always* and *Always* (a frequency scale as opposed to the agreement scale of the original MSHS). The last item used a *Low Sense of Humour-High Sense of Humour* scale.

While the mapping is reasonably complete, the MSHSC does not appear to include equivalents to those items listed as Modified MSHS Numbers 2, 5, 6, 12, 15, 20, 21 and 24. Additionally, the match on MSHSC Item 13 is marginal: the MSHSC item refers to the individual's response to sharing of a joke within a social group, rather than appreciating a joke itself.

Part of the incomplete nature of this mapping is intentional: Dowling and Fain rewrote negative stems as positive (Dowling & Fain, 1996, p.39) and in the process were able to eliminate replicated items. This explains the omission of Modified MSHS Numbers 2, 5, 12, 21 and 24, but not Modified MSHS Numbers 6 ("I'm regarded as something of a wit by my friends"), 15 ("I can actually have some control over a group by my uses of humour") and 20 ("People look to me to say amusing things').

These three items all loaded on Factor I in the original MSHS study, a factor on which almost half the items also loaded. In this sense the omission of these items was deemed acceptable.

A concern expressed by some teachers during pre-trialling was the use of the *Never to Always* frequency measure in place of the *Strongly Agree to Strongly Disagree* scale. While there was support for its simplicity for children and observers, the scale suggests that students should base their responses on how often something happens rather than their view of its importance. This could restrict the reported humour as solely a set of habits or behaviours rather than a construct that also includes views, ideas and attitudes. It is rather hard to find a child who always makes up jokes and funny stories, or whose friends always report that they say funny things. One observer pointed out that there is quite a difference between a person who strongly believes in their ability to make people laugh, and a person

who always makes people laugh. However, from a child's viewpoint this scale appears to make reasonable sense, and is certainly less complex than the more precise descriptions of the phenomena under investigation embodied in the original scale. Anecdotal evidence suggests that children may see the two scales as almost equivalent, and that terms such as "always" may acquire a wider meaning. For example, in expressions such as "You must always cross the road at the pedestrian lights", the presence of "always" equates to "this is very important" rather than implying that one's waking hours should be spent crossing roads at pedestrian lights.

### 3.2.2.1 *The modified children's instrument*

The instrument was re-set in a larger print format for student use, making maximum use of a single A4 page in landscape format. The changes to format and wording led to an instrument which was more suited to use with younger children and with those with print literacy problems. This instrument layout is given as Appendix E.

Analysis of the items, taken together as a single text and analysed by computer software (the grammar tools in the word processor Microsoft Word 98), gave a Flesch Reading Ease value of 71.2 for the original MSHS items and 80.3 for the final collection. This provides a measure of readability based on the average number of syllables per word and the average number of words per sentence, on a scale from 0 to 100 (higher scores indicate that a higher proportion of people can readily understand the document). Standard writing averages 60 to 70.

The Flesch-Kincaid Grade Level of the original MSHS items was found to be 5.1, while the final collection was found to be 4.0. This measure computes readability based on the average number of syllables per word and the average number of words per sentence. The score

indicates a nominal grade-school level. Standard writing rates as approximately seventh-to-eighth-grade level. The advice of four qualified and experienced primary school teachers was used to confirm that the language was, in their professional opinion, comprehensible to typical upper-primary students (age approximately 9-11 years) prior to actual verification with students.

From this point onwards, the developed instrument is referred to as the MSHSYA (*Multidimensional Sense of Humour Scale for Young Adults*), both to indicate its parentage and to differentiate it from the other variants used in other research.

#### 3.2.2.2 *Trialling the instrument with children*

A pre-administration trial was performed in order to verify the intelligibility of items to the target age range. Twenty-six students from a Year 6 class (Year 6 being the last year of primary school, ages not recorded but typical grade age is 12 years) from a suburban government primary school were given the student version of the instrument and asked to identify any words or sentences which he/she did not understand.

From these pre-administration trials some minor grammatical and layout changes were made which were not expected to significantly compromise previous validation work on the original items. Verification of the validity of this assumption was to be sought by comparing the factor analysis resulting from administering this modified instrument with that obtained by Thorson and Powell in the original validation and subsequent applications.

#### 3.2.2.3 *Self-reporting issues*

Self-reporting on humour poses some unique challenges. Although honesty and reliability can be improved by suitable confidentiality measures, there are several issues which

confound the process. Some children may see self-reports as a form of test and seek the “right” answer (that which their teacher would expect or desire). The internal view of what constitutes humour varies from child to child, (as it does from adult to adult or researcher to researcher) and is sometimes confused with other constructs such as those that adults may call defiance, rudeness, fun, deviance or retaliation.

Additionally, people are reluctant to self-report on lack of humour: studies by Allport (1961) and Lefcourt and Martin (1986) (cited in Cann, Calhoun & Banks, 1997, p.79) both report samples in which over 90% of people self-assess to have average or above average sense of humour, while Omwake (1937) found that, when high school and college students were asked to self-rate their sense of humour, only 1.4% were prepared to say they were below average. Fine (1975) found average ratings of Sense of Humour for both self-report and report-on-a-friend to be high (7.0 and 7.2 on a scale of 1 (Poor) to 9 (Excellent) respectively). While this may indicate that instruments or scales are non-linear, or that subjects were not randomly selected, or that humour manifests itself in a skewed distribution, it must admit the possibility that self-reporting inherently produces high levels for sense-of-humour variables. Ruch, Kohler and van Thriel (1996) also found that self-reporting of facets of the cheerfulness construct gave values which exceeded those provided by peers, whereas self-reports of seriousness were consistently lower than peer reports, supporting the view that people generally see themselves as more cheerful or humorous than their peers see them.

To establish validity, some external measures of sense of humour are required, and comparison between these measures and the MSHSYA undertaken. These external measures can include peer reports and reports by familiar adults. As no absolute indicator of the construct of sense of humour exists, there remains a question of which of these measures we

treat as “correct”. The question becomes as much philosophical as methodological; in asking “what sort of sense of humour does this child have?” we can choose to be advised by an individual’s own self-perception, on a consensus of opinion among peers, or on any of a number of alternatives.

In order to identify and control the phenomenon of over-rating self-reports, and to provide a way to verify concurrent validity and data triangulation, data on each child’s sense of humour was gathered by self-report and teacher report using a variant of the self-report instrument (Appendix F) with two groups in the Pilot Study, along with administration of a peer sense of humour survey (Appendix G) to assist in determining if the sense of humour information obtained from the MSHSYA instrument was consistent with peer and adult views of sense of humour.

#### 3.2.2.4 *Child versus adult views of humour*

A study by Bergen (1998) using parent, teacher and student reports of student sense of humour showed positive correlation between teacher and student sense of humour (total score) but both of these were uncorrelated with student self-report. The sense of humour scores were greatest for the parent reports, followed by the children’s self-reports and then the teachers’ reports as lowest. The rating of boys by the adult groups were higher than for girls, but this difference was not reflected in the students’ self-reports. Analysis by age showed that there was little support for a developmental model of humour emerging: rather, the sense of humour appeared to be a stable trait, with its manifestations (types of humour used and appreciated) changing with age. The instrumentation used by Bergen included personality state/trait items, behavioural items and attitude items, derived from instruments which were primarily aimed at adults.

The Bergen study prompts a criticism of the current study. This criticism is of the use or adaptation of a humour scale which is based on humour characteristics in the adult population rather than in a school-age population. Such an approach might provide one possible reason for the agreement between adults but not between adults and children in the Bergen study.

However there is justification for the use of a scale based on adult understandings of humour. While a scale which used only evidences of humour that are characteristic of children would be useful in many circumstances inside and outside of education, education has a function of socializing children into an essentially adult world. That is, the entire process of education has as one of its goals the taking in of children and over the course of 10 or 15 years helping them to develop cognitively, emotionally, socially, personally, physically and morally so they can emerge as young adults with a skill and knowledge base to allow them to lead fulfilling and productive lives. During this period, students move along a series of continua from child status towards adult status, with progress influenced by various developmental, individual and educational factors. As is well-recognized, the developmental factors give rise to identifiable stages which are characterized by certain behaviours or capacities.

For specific domains, these are, in general, sequenced in a known pattern, with minor variations between individuals. One way of describing developmental status in a domain (e.g., physical development) is to describe the extent to which the individual has achieved the characteristics of an adult (e.g., height as an indicator of physical development). Of course, such an approach gives a coarse measure which makes no use of knowledge of patterns of physical development, but it does provide a relatively fixed reference point which can be used in the absence of more detailed information on the expected patterns in development



over time.

Accordingly, it was decided to retain the measures of sense of humour in an adult environment when dealing with students in an educational context. A group of experienced junior high school teachers was asked to verify that the items in the instrument were relevant to students of that age. Agreement was unanimous, with the exception that two teachers were unsure if the instrument should differentiate between humour production for positive or negative purposes. There was concern that an item like “This child makes up jokes or funny stories” would necessarily elicit the same response for a student who made up jokes for a positive purpose as for a student who made up jokes for negative purposes such as bullying. Resolution of this issue was achieved by considering the propensity to use humour as an independent personality characteristic to the tendency to act positively or negatively towards others.

#### 3.2.2.5 *The “teacher report on child” variant of the instrument*

From the adapted MSHSYA self-report survey, a “teacher report on child” survey instrument was constructed. This survey was to gather the same information about the child, but from a teacher rather than as a self-report by the child. The process is not as straightforward as it might appear, as teacher knowledge of the child is tempered by that teacher’s beliefs about the world. As an example, the item (Original MSHS # 21) “Humour helps me cope” could be re-written as “Humour helps this child cope” in an attempt to provide an equivalent teacher item. However, this risks being interpreted by a teacher as a comment about society at large, rather than a comment aimed at the child’s perception. That is, under the unintended interpretation, a teacher who believes that a sense of humour is a useful coping mechanism could answer ‘strongly agree’ to this item, even if they knew that the child in question did

not use humour to cope. A response of this type would not be valid as a view of the child's sense of humour.

In order to elicit information which addresses the same concepts as are elicited from the child by the original instrument, some careful re-phrasing was required.

In addition, a short-form of the "teacher report on child" instrument was developed which allowed a teacher to report on a group of children (eg a class) on a one-page form. (Appendix J). The short-form required a teacher to report on the five identified factors which had emerged as dimensions of sense of humour, and thus reduced the task of reporting to a more manageable task when a teacher was faced with reporting on thirty or so students. The scores on these factors retain the multi-dimensional nature of sense of humour, but were more appropriate to a school setting.

#### 3.2.2.6 *Factor stability of the MSHS and variants.*

Some concern was expressed during the early stages of the study that the MSHS instrument and its variants had not been demonstrated as having sufficient factor stability to allow the measurement of individual factors for a person. While the factor structure had been demonstrated to exist, and thus the MSHS instrument had been shown to incorporate measures of multiple dimensions of sense of humour, the accuracy and precision with which it can measure these individual components had not been verified. It is possible that the MSHS instrument might successfully combine a range of dimensions of sense of humour without necessarily measuring each one with sufficient accuracy for the dimensions to be withdrawn and used individually. This needed to be investigated.

Consequently, the pilot study and subsequent studies were used to verify that the factor

structure is stable and that the instrument can validly be used to report on individual factors.

### 3.3 Ethical Considerations

The administration of the instruments followed ethics guidelines as laid down by the investigator's institution as well as those required by the relevant Education authority. The approval documents are given in Appendix D. Confidentiality was assured verbally to the students and by the process of removing all reference to student names. Subjects were selected based on existing school structures, and were given the option of answering anonymously. All participation was voluntary, anonymous and unpaid, with students and teachers agreeing or disagreeing to participate based on the knowledge that their decision would not in any way affect their career or course.

Anonymous responses were not included in the correlation process but were included in the factor analysis after elimination of subjects who had clearly produced nonsense responses. No records were maintained of the nature of the students making the anonymous responses, nor of those who chose to opt out.

### 3.4 Pilot Study

The pilot study was primarily aimed at verifying that the modified MSHSYA instrument administered to children behaved in a similar way to the MSHS instrument administered to adults, that the factor structure was stable and that the instrument had high reliability. Issues of readability, adequacy of instructions and appropriate usability (including time for completion, print size and ease of transcription) were also investigated via feedback from supervising teachers.

### 3.4.1 Selection of subjects

As part of the pilot study, the student and teacher MSHSYA instruments (see Appendix E) were administered to several independent groups in school settings. The groups were a Grade 6 class in a government elementary school in central Wisconsin, a Grade 6 in a suburban government primary school in Tasmania, and a small group of students in a custodial care facility. These groups were used as they were a readily accessible sample representing a suitably wide range of contexts, and could reasonably be expected to find any major difficulties associated with understanding and completing the instruments. The sample consisted of 144 students, aged from 11 years 5 months to 19 years 4 months, mean age 15 years 7 months, standard deviation 3 years 5 months. The custodial care students within the sample were not from a specific school year, but were slightly older than the rest, with a mean age of 16 years 8 months. The sample included students aged slightly below the age for which the MSHSYA was to be used, which provided an opportunity to identify issues of readability, and clarity of instructions. All schools were co-educational, while subjects from the custodial care facility were all male except one. Gender balance was not specifically controlled. All schools were coeducational, and attempts were made to avoid schools located nearby to single-sex schools (which tend to draw students from their immediate vicinity, leaving an imbalance in favour of the opposite sex in coeducational schools). This resulted in a cohort of 56 females and 88 males.

### 3.4.2 Administration

The data gathered in the Pilot Study included student self-report (the MSHSYA self-report instrument) and a teacher report (on a 5-point scale), for most of the students. This was not

the case for all students: teachers only rated those who they knew well enough to comment upon, this decision being left to individual teachers. The data were gathered at the end of the US and Australian school years, the responses thus representing knowledge accumulated over almost a complete school year. The relationship between the self-report and teacher report is one indication of the validity of the instrument as a measure of sense of humour.

### 3.4.3 Preliminary analysis

Analysis of the data was undertaken with the intention of deriving any underlying factor structure which was evident in the responses. The data were coded in a Microsoft Excel spreadsheet, using the numeric scale 0-4 to represent the values *strongly disagree* to *strongly agree*, and non-numerical coding for invalid and non-responses. The “sense” of responses was adjusted so that high numeric values corresponded to a higher sense of humour (that is, for the questions on which a response of *strongly disagree* indicated a high value for a sense of humour variable, the 0-4 scale was reversed in recording to become a 4-0 scale). Blank responses were removed from the analysis. Data entry was checked using a reverse-order entry technique and sampling on a 10% basis was used to verify that records were entered correctly. In particular, the correct alignment of data entry was verified, as the use of a spreadsheet is open to inadvertent entry of partial results for one case into the fields for a previous or subsequent case.

### 3.4.4 Analysis of results

Instrument behaviour and subsequent factor analysis was initially performed using the Analysis Toolpack in Microsoft Excel (Microsoft Corporation WA) and the computer

software package Statistica for Windows version 4.0 (StatSoft Inc., Tulsa OK). Results are reported later in this thesis.

### 3.5 Study 1

Study 1 was undertaken to extend the investigation trialed in the Pilot Study, and to further validate the constructs measured by the MSHSYA instrument, down to the level of the individual components of sense of humour. Study 1 also investigated the feasibility of comparing sense of humour profiles.

#### 3.5.1 Selection of subjects

The selection of subjects was based on both methodological and logistical factors. A first consideration was the need to have a group of students who were able to comment validly on one another's humour characteristics. Secondly, these groups were required to be representative of the student population, or at least not demonstrably unrepresentative.

A decision was taken to seek classes which were coherent within the school environment, that is classes which were taught or regularly gathered as a group for some purpose within the school. In this way, the peer and teacher assessment of individual students would be based on a substantial level of knowledge of class members. This is as close to a natural social grouping as can be reliably found in a school setting. The grades selected were from Australian Year 8 High school (mean age 14 years 3 months) and Years 11, 12 and 13 (senior secondary college mean age 18 years 5 months).

Data were collected over November 1999 and November/December 2000.

Many schools operate pastoral care groupings (groupings through which students are provided with support and instruction relating to personal issues). If these groupings are based on a subject group, a class and teacher will be together for one subject and for pastoral care, resulting in several contact periods during a school week. This increases the mutual knowledge of students and teacher. Similarly, students and a teacher in a class which has remained intact over several years will have an increased level of mutual knowledge. A class sampled towards the end of the school year is more likely to contain students and teacher who have an appropriate level of knowledge of each other through the increased duration of contact.

Care was exercised to avoid using only classes formed by selective optional subjects. A class formed as a result of students opting to study, say, a foreign language, is likely to have an unrepresentative composition of students in terms of academic background. If only these sort of subject groupings were to be considered the results would lack generalisability.

### 3.5.2 Timing

In order to maximise the level of mutual knowledge within the school groupings, administration of the instruments was undertaken towards the end of the school year. This was, in general, somewhere in the final term of a three-term year, although in one case the final week of the school year was used. This proved problematic as many students were occupied on completing unfinished tasks and completion rates were lower than desired.

The load and impact of this study on schools, students, parents and teachers was considered prior to proceeding. The administration of the student self-report instrument and sociometric survey was able to be performed as a class task, at a time deemed suitable by the school.

The participation rate was not expected to exceed 80%, based on typical school experience with parent forms in the past. The loading on individual teachers, however, was significant: asking teachers to complete a 25-item survey on 30 students is a significant imposition on their professional time. Accordingly, attempts were made to have each class reported on by several teachers, sharing the task.

To investigate the validity and reliability of having a class reported on by several teachers, a single 5-point Sense of Humour Rating was also filled in for each child in the class by each of the teachers involved. The correlation between teachers was then able to be examined and compared with child-peer ratings. While this approach does not necessarily provide sufficient statistical evidence to allow the direct comparison of children within the group who have been evaluated by different teachers (which is not being attempted as part of this study), it does improve the generalisability of the process as a wider range of teacher types is involved.

### 3.5.3 Administration.

Study 1 consisted of the processes described below applied to a cohort of approximately 350 students and 30 associated teaching staff in a public (Government-run) Tasmanian senior secondary college in 1999. Students and staff were all volunteers, although the study was administered within existing class groupings, so students could take part in the study without the need for active relocation. In a 30-minute timeslot, students were asked to complete the following:

- (i) A self-administered MSHSYA questionnaire about their own sense of humour (Appendix E),



- (ii) A sheet containing the names of the other members of their class, on which they were asked to record how they saw other students sense of humour on a 5-point scale (Appendix G).

In the same time slot, supervising teachers were asked to complete the following:

- (iii) A self-administered MSHSYA questionnaire about their own (the teacher's) sense of humour (Appendix F),
- (iv) A response form that listed each of the students in their class group, on which they were asked to rate students on each of the five dimensions of sense of humour, using a 4-point scale, where this was possible. (Appendix J). The five dimensions of sense of humour were those identified in the Pilot Study.

No attempts were made to identify absent students or those who chose not to complete the instrument.

#### 3.5.4 Analysis

Analysis was performed using Statistica for Windows version 4.0 (StatSoft, Inc., Tulsa OK), and the Analysis Toolpack for Microsoft Excel 2002 (Microsoft Corporation, Seattle).

The factor structure was verified as in the Pilot Study, using the larger dataset. In order to validate the MSHSYA as a measure of sense of humour, correlations between self-report, peer report and teacher report of each student's sense of humour were undertaken. Where a student did not have peer report or teacher report the data were excluded on a casewise basis.

In cases where several peer reports were received for a student, these were averaged into a single peer report. It can be argued that where a student receives a large number of peer reports, this provides a more valid measure than a case where a student receives only a small number. However, the situation also depends on the nature of the reporting peer assessor: some peers will inevitably have the ability to produce a more accurate assessment of an individual. To assess the ability of each potential assessor would involve an imposition on schools that would render the study unworkable. Additionally, the validity of assessment depends not only on the assessor but on other factors, most obviously the extent to which they know the target individual. To add to this complexity, there may be variations in the accuracy of assessment by individuals according to whom they are assessing: some people may be very accurate in assessing others of their gender, but not those of the opposite gender, for example.

As it was beyond the scope of this study to accommodate the variation in reporting ability of close to a thousand de-identified students, a decision was taken to treat the peer rating of a student as equally reliable regardless of who provided the rating.

## 3.6 Study 2

Study 2 was undertaken to investigate the relationship between sense of humour profiles between student and preferred teacher. Data from previous studies were included where appropriate. In particular, factor structures and weightings were based on the most complete and representative data set at this stage.

### 3.6.1 Subjects and selection

Study 2 consisted of the processes described below applied to a cohort of approximately 500

students in a Tasmanian public coeducational senior secondary college (the college used in Study 1), with an approximately equal representation of males and female students in the nominal age range 17-19. In addition, 45 teachers of this cohort participated. A second, much smaller cohort of students and teachers in a special alternative education program for students at risk of not completing their high school education was also included in Study 2. A third set of data were collected from the Grade 8 student cohort of a large Tasmanian coeducational government high school, and their teachers. These data were collected in November 2001, August/September 2002, and a further set in October 2003. There were some students in the senior secondary college who participated in the study in both years.

The school grades were chosen to give a wide range of adolescent responses within compulsory schooling, but avoiding the primary grades in which students tend to have only one teacher. It was important that students were able to choose from a range of teachers with whom they were familiar, and hence data were collected at the end of the school year.

The alternative education group was chosen to allow separate analysis of a group of students who would typically be “swamped” in a large data set (unless they were manually identified as being problematic). Most of the students had been placed in the alternative education program as a result of their disengagement and failure to thrive in a conventional education setting, often due to motivation or antisocial behaviour. The decision to place them in the alternative education environment was based on extensive analysis of their needs and situation by their school and support staff. The students in this group are representative of a type of student for whom many teachers find difficult to provide in mainstream education. By separately analysing the responses of these students, it was anticipated that information specific to disengaged students might be derived with a consequent benefit to the teaching

profession.

As the data collection was undertaken in schools, the selection of students involved was inevitably influenced by the requirements of voluntary participation, agreement of teachers to the possible disruptive effect of the research process, and the actual attendance on the days that the survey was administered. This does present a risk of the results becoming unrepresentative, as is always the case in such situations. However the schools were very cooperative in encouraging students to participate: higher participation rates would only be obtainable through making participation compulsory, which would breach ethical principles in this case. Participation rates exceeded 75% except in the case of the year 8 group where only 53% of available students participated.

### 3.6.2 Secondary college cohort

The student, teacher, sociometric and preferred teacher identification instruments were administered to three groups of students from a large suburban senior secondary college, over subsequent years. The college setting was chosen as there was a high level of knowledge of students by staff and vice versa, as a result of the high level of mobility within the curriculum, which resulted in individual students having involvement with multiple teachers. The level of knowledge was important to the study as validation of self-administration was reliant on having multiple people who could comment on individuals' sense of humour.

Students and staff were all volunteers, although the study was administered within existing class groupings, so students could take part in the study without the need for active relocation. In a 30-minute timeslot, students were asked to complete the following:

- (i) A self-administered MSHSYA questionnaire about their own sense of humour  
(Appendix E),
- (ii) A sheet containing the names of the other members of their class, on which they were asked to record how they saw other students sense of humour on a 5-point scale,  
(Appendix G),
- (iii) A sheet containing the names of participating teachers within the school, on which they were asked to nominate up to 3 teachers with whom they had a positive relationship (Appendix H).

In the same time slot, supervising teachers were asked to complete the following:

- (iv) A self-administered MSHSYA questionnaire about their own (the teacher's) sense of humour (Appendix F),
- (v) A sheet containing the names of the students in their class, on which they were asked to record how they saw five components of their students' sense of humour (each on a 4-point scale) for any students on whom they felt able to comment (Appendix J).

No attempts were made to identify absent students or those who chose not to complete the instrument.

### 3.6.3 Alternative education cohort

In the case of the group of at-risk students in the alternative education program, the same processes as for the secondary college cohort were undertaken under the guidance of their teacher. Due to the flexible nature of their program, the students were issued with the

questionnaires individually over a period of several days, and each given 30 minutes to complete them. Assistance with literacy was provided where necessary.

#### 3.6.4 High school cohort

The instruments were administered to the high school students over a 30-minute timeslot in which they were gathered routinely for group activity. The friendship groupings were very obvious as the students gathered as a large group, and the climate immediately prior to the administration was one of social interaction, as that was the usual nature of the activities undertaken in that timeslot.

#### 3.6.5 Analysis of results

Data were de-identified and entered into a series of Microsoft Excel spreadsheets, separate sheets being maintained for each student group. Correction of the “sense” of items was made so that larger numeric scores corresponded to increasing sense of humour.

Analysis proceeded as follows, using the Analysis Toolpack for Excel, Statistica for Windows version 4.0 (StatSoft, Inc., Tulsa OK) and SPSS. Correlations between self-report and teacher-report for each student were computed for each scale item. Factor analysis was performed separately on the student and teacher data.

Comparison of student and adult-produced factors was made. A comparison was also made with the results obtained or reported by Thorson and Powell (1993a, 1997). In particular, the emergence or otherwise of four main factors, corresponding to Humor Creativity and production, Uses of Humor for Coping, Attitudes towards Humorous People and Attitudes

towards Humor Itself, as found by Thorson and Powell, was investigated.

Results of the Pilot Study suggested that 5 factors were likely to emerge, being essentially those of Thorson and Powell with one factor split into two parts, namely Personal Use of Humour as Entertainment and Social Use of Humour.

Correlational analysis of the individual student scores on Sense of Humour dimensions with those of their preferred teachers was undertaken. This was broken down by teacher and student gender.

In order to assist the interpretation of the relationships identified in the analysis, a group of expert teachers (16 degree-qualified teachers, all with at least 10 years experience in teaching, 10 female 6 male) was used. The members of this group were asked to react to the findings in terms of their knowledge of the classroom setting. These teachers provided individual comments that were then fed back to the other teachers in the group for evaluation.

### 3.7 Calculation of Scores

The responses from each student were entered into a Microsoft Excel 2002 spreadsheet. The five identified dimensions of sense of humour were derived for each respondent, using a spreadsheet model based on the results of factor analysis.

For each child, a "Student Score" was derived from the self-administered MSHSYA instrument for each factor using a weighted-scaling process described in Appendix A. The factor weightings used in this process were based on the entire set of data collected during the study. For each student, a rating of Peer-Perceived Sense of Humour was derived from results obtained from the sociometric instrument (a simple mean of the peer report values for

that student). To confirm validity of the use of MSHSYA with young adults, the correlations between individual student scores on each factor and the mean peer rating of that student by classmates were investigated. This was to validate that the behaviours and characteristics being measured by the MSHSYA corresponded to the construct of sense of humour as perceived by peers.

The relationship between overall Student Score and Peer-Perceived Sense of Humour was also investigated for the same reason. The Peer-Perceived Sense of Humour Rating was expected to vary in quality between students: some students would be better-known by their peers, resulting in a larger number of peer ratings than for those students who were less well-known by their peers. A single peer rating (by a peer who had completed a valid self-report) was considered sufficient for inclusion, and peer ratings from different students were given equal weighting.

Correlation of each of the subscale and scale scores with age was performed, in order to identify any major age-related (and hence possibly developmental) trends. It should be pointed out that this age-based part of the analysis was expected to yield only limited results. McGhee (1976a) had observed that measuring cognitive development simply by a single broad measure does not give sufficient precision to allow identification of links between cognitive development and humour variables, so it was expected that a more detailed set of measures of cognitive development would be needed if detailed relationships were to be uncovered. However, when dealing with large numbers of children in a naturalistic environment, establishing these components of cognitive development was deemed unworkable, so age was used as a broad indicator of cognitive development.

In addition, at least one recent theory of humour appreciation (Veatch, 1998) considers moral



development state as a variable: this diminishes the value of knowing just cognitive development state and adds another layer of complexity to measuring development variables in a classroom setting.

Any trends observed in this study related to age would therefore have to be considered as only indicative of developmental patterns.

There may well be relationships between student sense of humour profile and preferred teacher sense of humour profile that are not based on similarity. For example, it is plausible that students with a high preference for producing humour might not get on well with teachers with a similar tendency, but rather with teachers who enjoy humour for personal reasons. These sorts of relationships would not be reflected in similar sense of humour profiles. Correlations between each of the components of the profiles were therefore calculated to identify such relationships.

As previous research has identified several factors that contribute strongly to teacher-student relationship, and hence explain much of the variance, the relationships being investigated here were of a lower order and hence it was expected that they would be explaining a relatively small proportion of variance.



## 4.0 RESULTS AND DISCUSSION

The three studies were undertaken over a period of several years. Each study made use of the results gathered previously, although instrumentation was maintained constant in order to ensure comparability.

The Pilot Study provided evidence that the MSHSYA was useful as an instrument for measuring the components of Sense of Humour, while the First and Second Studies were aimed at investigating the relationships between the sense of humour of students and their preferred teachers.

Results of each of the studies are given along with discussion of their importance.

### 4.1 Pilot Study.

The pilot study was primarily aimed at verifying that

- the modified MSHSYA instrument administered to children behaved in a similar way to the MSHS instrument administered to adults,
- the factor structure was stable and,
- the instrument had high reliability.

The administration to 144 students gave preliminary results that confirmed the suitability of the instrument.

#### 4.1.1 Instrument behaviour in pilot administration (Pilot Study)

The overall MSHSYA Score, obtained by summing the scores on items 1 to 25, was

approximately normally distributed, (Shapiro-Wilk  $W = .98, p < .37$ , insufficient to reject the hypothesis that the distribution is normal), but positively skewed (skewness 0.12) and with slight kurtosis (0.07). The mean score was 64.1, with a standard deviation of 13.2. The distribution is shown in Figure 5.

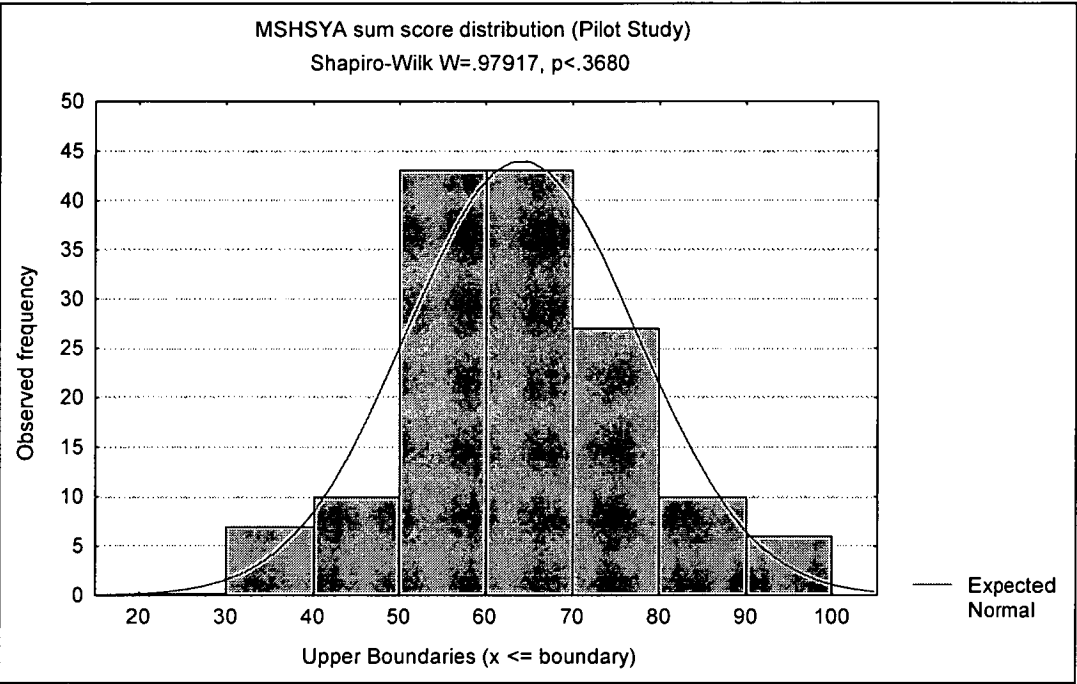


Figure 5. distribution of MSHSYA scores.

The individual items all yielded the full range of scores (from 0 to 4 based on the 5-point scale used). Summary statistics are given in Table 8.

Table 8. Mean and standard deviation of MSHSYS items in Pilot Study.

<i>Item</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>10</i>
<i>M</i>	2.77	2.92	2.31	2.72	2.62	2.58	2.92	2.38	2.27	2.38
<i>SD</i>	0.91	0.94	1.05	0.84	1.05	0.89	0.81	0.98	1.01	1.06

<i>Item</i>	<i>11</i>	<i>12</i>	<i>13</i>	<i>14</i>	<i>15</i>	<i>16</i>	<i>17</i>	<i>18</i>	<i>19</i>	<i>20</i>
<i>M</i>	2.38	2.99	2.47	3.32	2.16	2.46	2.88	2.58	2.23	2.01
<i>SD</i>	1.11	0.95	0.95	0.87	1.05	1.16	0.82	1.04	1.05	0.99

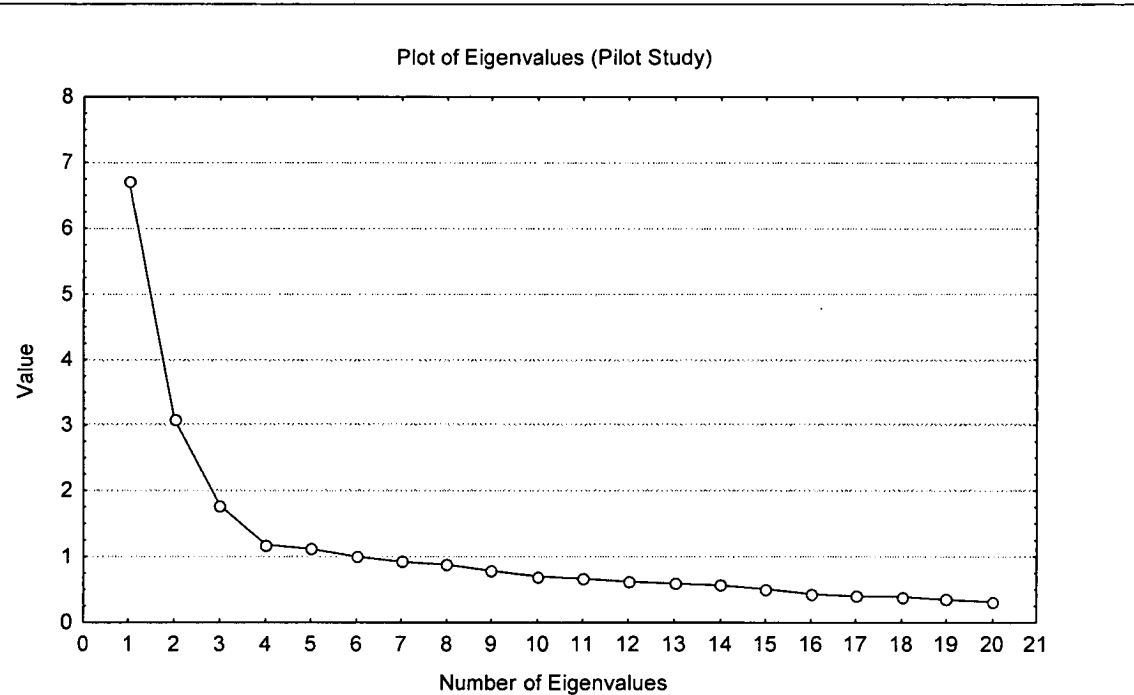
<i>Item</i>	<i>21</i>	<i>22</i>	<i>23</i>	<i>24</i>	<i>25</i>
<i>M</i>	2.46	2.28	2.61	3.06	2.66
<i>SD</i>	1.18	1.04	0.99	0.95	0.97

The distribution of each of the individual items was, in all cases, a skewed distribution. All means were greater than the scale midpoint (2) and in two cases were almost a whole scale division higher than this midpoint. This is consistent with the studies cited previously in which people rarely report their own humour as being below average. Although the scale midpoints are not necessarily average responses, one would expect that as it is known that people tend to over-estimate their sense of humour, they will tend to self-rate towards the “more humorous” end of the scale rather than the less “humorous”.

The self-report of sense of humour (Item 25) was originally included as a way of allowing correlations to be investigated between the broad popular construct of sense of humour and the more specific components. It was included in the calculation of the MSHSYA score in

order to maintain consistency with other research, but has been excluded from the factor analysis as conceptually it includes all of the factors.

Factor Analysis (and, independently, Principal Components Analysis) of the entire instrument (items 1 to 24) yielded 5 factors. The decision on the number of valid factors was based on the Scree Test which was also consistent with the Kaiser criterion of eigenvalues being numerically greater than one (Figure 6).



*Figure 6.* Eigenvalues for MSHSYA (Pilot Study)

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$N = 144$ , 24 items.

The decision resulted in identification of five factors (Table 9) although the fourth and fifth factors only just met the Kaiser criterion. The marginal nature of the last two factors was

noted for later consideration.

Criticism has been raised regarding the appropriateness of the Kaiser criterion as the determinant of the number of factors, and the use of principal component analysis where exploratory factor analysis approaches are more useful. In particular, the works of Floyd and Widaman (1995) and Preacher and MacCallum (2003) challenge some of the common assumptions held in this area. In this study, therefore, the Scree Test was used rather than relying on the Kaiser criterion as a basis for factor retention. Similarly, the use of orthogonal rotation methods was retained only where comparison with prior studies was required.

Table 9. Eigenvalues for factor analysis of MSHSYA (Pilot Study)

<i>Factor</i>	<i>Eigenvalue</i>	<i>% total Variance</i>	<i>Cumulative Eigenvalue</i>	<i>Cumulative % Variance</i>
I	6.72	28.01	6.72	28.01
II	3.08	12.831	9.80	40.84
III	1.78	7.391	11.58	48.24
IV	1.18	4.921	12.76	53.16
V	1.12	4.66	13.87	57.81

Internal reliability was used to evaluate the internal consistency of the 24-item set and the factor-based subscales. The sum scale yielded a Cronbach’s alpha of .880. The subscale of items associated with Factor I yielded a Cronbach’s alpha of .820, with Factor II .820, and with Factor III .621. Inter-item correlation was .244 for the entire 24-item sum scale (.252 if the 25<sup>th</sup> item, the self-report on overall sense of humour, is included)

The correlation of each item to the total score (taken over the 24 items) is given in Table 10.

This process allows the identification of seriously redundant items or those which are not contributing sufficiently to the instrument. The maximum correlation was .62 (Items 6, 9 and 19) while the minimum was .35 (Item 24). Guidelines such as those proposed by Beech and Harding (1990, p.90) indicate that items with item-total correlations in the range .2 to .8 have a desirable level of commonality with an underlying construct, yet are still sufficiently distinct to avoid unnecessary redundancy. In this case, all items were within this range.

Table 10. Correlations between individual item scores and MSHSYA sum score

<i>Item</i>	<i>r</i>	<i>Item</i>	<i>r</i>	<i>Item</i>	<i>r</i>
1	.57	9	.62	17	.55
2	.46	10	.51	18	.64
3	.46	11	.54	19	.62
4	.47	12	.36	20	.56
5	.45	13	.66	21	.40
6	.62	14	.47	22	.59
7	.51	15	.44	23	.54
8	.57	16	.46	24	.35

In order to further check that individual items were not affecting the reliability of the scale enough to warrant their deletion, the Cronbach’s Alpha coefficient for the sum scale was re-calculated with each of the items removed (separately) from the scale.

The effect on Cronbach’s Alpha was minimal: the largest effect was when Question Item 18 was removed, which reduced alpha to .871 (from .880). Clearly the removal of any of the items has a minimal effect on the internal consistency of the scale.

The use of test-retest reliability as a measure of reliability for the MSHSYA instrument is



complicated somewhat by the variation of aspects of Sense of Humour over time. While the concept of Sense of Humour (and everyday use of the phrase) pre-supposes a set of traits characteristic of an individual, it is also clear that disposition to humour varies with mood and circumstance. Ruch and Köhler (1998) identify that the traits cheerfulness, seriousness and bad mood form the temperamental basis of sense of humour, while the corresponding states of cheerfulness, seriousness and bad mood represent the varying dispositions for humour which an individual may encounter.

The instrument attempts to provide a trait measurement by asking the subject to consider their own typical actions rather than their mood at that specific time. However, with young subjects (or those who tend to act impulsively) there is a risk that self-reporting will be influenced by state variables. For that reason the instrument was administered in a “neutral” environment for the student, where there was less chance of them being in an atypical state physically, emotionally or intellectually. However it is not possible to guarantee with absolute certainty that the subject has not been affected by some recent event that might result in an unrepresentative administration of the instrument, unless the person administering the instrument has very good knowledge of the subject’s background.

The opportunity for evaluating test-retest reliability was built in to Study 1 and 2 as several students (and teachers) who were present in more than one administration, at least a year apart. However this data was not available during the Pilot Study, so test-re-test reliability is reported later.

#### 4.1.2 Factor loading (Pilot Study).

The loading of each item on the five factors is shown in Table 11.

Table 11. Factor loadings for MSHYA (Pilot Study)<sup>1</sup>

		<i>Factor</i>				
	<i>Item</i>	<i>I</i>	<i>II</i>	<i>III</i>	<i>IV</i>	<i>V</i>
1	I can often make people laugh with the things I say.	.67				
2	People who tell jokes are annoying.			.65		
3	Jokes and funny stories get me through hard times.		.72			
4	I can say things in a way which makes people laugh.	.78				
5	Humour is a poor way of facing problems.		.41			
6	My friends think I am funny.	.83				
7	I like people who tell jokes.				.76	
8	People tell me that I say funny things.	.76				
9	I can make problems better by saying something funny.		.44		.48	
10	Using humour to get through tough times is a good way to go through life.		.71			
11	I make up jokes or funny stories.	.57				
12	I am uncomfortable when everyone is cracking jokes.			.72		
13	My clever sayings amuse others.	.69				
14	I like a good joke.				.76	
15	I can actually have some control over a group by my uses of humour.	.57				
16	I don't like people who try to be funny.			.64		
17	I can make other people laugh.	.66				
18	Humour helps me to relax.		.69			
19	I can use humour to adapt to many situations.		.65			
20	People look to me to say amusing things.	.57				-.40
21	Using humour to solve problems is silly.			.58		
22	Humour helps me cope.		.80			
23	I use humour to entertain my friends.	.53			.39	
24	Calling someone a "comedian" is a real insult.			.40		.54

	<i>Factor</i>				
<i>(continued)</i>	<i>I</i>	<i>II</i>	<i>III</i>	<i>IV</i>	<i>V</i>
Explained Variance	4.86	3.37	2.36	2.07	1.22
Proportion of Total variance	.20	.14	.10	.09	.05

Only loadings of magnitude > .40 are shown. *N*=144, 88 male, 56 female, mean age 15y 7m, standard deviation 3y 5m.

Arranged according to factor loadings these appear as in Table 12:

Table 12. MSHSYA Items ordered by factor loading (Pilot Study)

		<i>Factor</i>				
	<i>Item</i>	<i>I</i>	<i>II</i>	<i>III</i>	<i>IV</i>	<i>V</i>
6	My friends think I am funny.	.83				
4	I can say things in a way which makes people laugh.	.78				
8	People tell me that I say funny things.	.76				
13	My clever sayings amuse others.	.69				
1	I can often make people laugh with the things I say.	.67				
17	I can make other people laugh.	.66				
11	I make up jokes or funny stories.	.57				
15	I can actually have some control over a group by my uses of humour.	.57				
20	People look to me to say amusing things.	.57				-.40
23	I use humour to entertain my friends.	.53			.39	
22	Humour helps me cope.		.80			
3	Jokes and funny stories get me through hard times.		.72			
10	Using humour to get through tough times is a good way to go through life.		.71			
18	Humour helps me to relax.		.69			
19	I can use humour to adapt to many situations.		.65			
9	I can make problems better by saying something funny.		.44		.48	
5	Humour is a poor way of facing problems.		.41			
12	I am uncomfortable when everyone is cracking jokes.			.72		
2	People who tell jokes are annoying.			.65		
16	I don't like people who try to be funny.			.64		
21	Using humour to solve problems is silly.			.58		
24	Calling someone a "comedian" is a real insult.			.40		.54
7	I like people who tell jokes.				.76	
14	I like a good joke.				.76	

#### 4.1.3 Comparison of results of administration with results from other researchers (Pilot).

In order to establish similarity between the MSHSYA instrument and the MSHS and MSHSC instruments, the results of this trial administration were compared with the results obtained elsewhere with these instruments. These are given in Tables 33, 34 and 35 (Appendix L).

The data given in Table 34 for the MSHS represents the factor structure for MSHS with the largest sample studied as of 1997. However, this was obtained on a predominantly adult sample. Using the Thorson, Powell, Sarmany-Schuller and Hampes (1997, p. 608) data analysis for the young adult subset of this sample may prove more useful for comparison with the Pilot Study data. This comparison is shown in Table 35. Finally the data for the study by Dowling and Fain (1999) using young children are given in Table 36.

Some clear similarities can be seen, indicating that the MSHSYA instrument behaves similarly to the MSHS and MSHSC instruments, especially when compared based on performance on younger subjects. Some differences can also be seen. The most apparent of these differences is that the sense of humour construct appears as multidimensional, with five factors emerging from principal component analysis. This is in contrast to the four dimensions obtained by Thorson, Powell, Sarmany-Schuller & Hampes (1997), and Dowling & Fain (1999).

#### 4.1.4 Factor structure (Pilot Study)

Investigation of the factors showed that similar factors emerged to those found in previous

studies, and the order of extraction (based on proportion of variance accounted for) for the MSHSYA in this study appeared to be the same as that obtained by other researchers.

The first factor (that which accounted for the most variance) appears to be centred on the response of others to the individual's humour, and appears to include **the production of humour**.

The second factor to emerge appears to be related to uses of **humour in coping**, adapting and managing problems.

The third factor appears to involve the value which the individual places on the effects of humour and those who produce it. There is a sense of the capacity of the individual to enjoy **humour at a personal level**. However, two significant items (Items 7 "I like people who tell jokes" and 14 "I like a good joke" did not load on this factor, which would have been expected if the factor was purely related to personal enjoyment.

The fourth factor to emerge describes the **social aspects related to humour** itself and its uses.

The fifth factor is less clear but appears to involve a perception of **humour being external to the individual**: that is, it represents a component of sense of humour in which the individual sees humour as something external to themselves. The retention of this factor is tentative as only two items load on it, and its nature appears to be related to the first factor, in that production of humour and its use in a social setting seem to be almost an opposite to the nature of the fifth factor. The fifth factor was retained in the analysis to allow further investigation.

In comparison, Thorson and Powell (1993b) and Thorson, Powell, Sarmany-Schuller and

Hampes (1997) found four factors, similar to the first four found here. In particular, the creativity and production of humour emerged as their first factor, followed by coping aspects of humour, identical to the order found in this study. The remaining factors were appreciation of humorous people and appreciation of humour itself. Dowling and Fain (1999) identified three factors, the first of which involved production of humour and the second of which involved the use of humour in coping.

The first factor emerging in this study clearly possesses similar characteristics to the factors identified by both the Dowling and Fain study and that of Thorson and Powell. Examination of the items that load on that factor include both production components and components related to social use of humour. It is conceivable that the production of humour only makes sense in a social setting, in which case the first factor in question is highly similar to the studies of Thorson and Powell, and Dowling and Fain.

A study undertaken using the original MSHS instrument with 504 Australian adults (including older students) by Joss-Reid and Boyle (2000) also produced four factors, in the order Humour Production, Attitudes to Humour, Coping Humour-Social, Coping Humour-Personal. The identification of separate social and personal components in this setting suggests that this separation may also be present in the factors for school-age students, or at least that allowance for its possible existence may be worthwhile.

Gürtler (2002) identified three categories into which humour can be classified, each linked with a theoretical framework. He saw elements of a sociological function (largely described by superiority theory), a psychological function (relief and coping theory) and an intellectual function (incongruity theory). While these categories are more an indication of the underlying theoretical lenses through which researchers have chosen to examine and explain

aspects of humour, it is instructive to compare them with the results of the factor analysis. It would seem that there are distinct similarities between the two, although the intellectual function does not appear to map directly onto a single factor: possibly it spans both the production of humour and personal enjoyment factors.

#### 4.1.5 Gender effects (Pilot Study).

The following Summary Table of Means (Table 13) shows the comparative mean scores on each item for males and females.

The behaviour of other MSHS-derived instruments, coupled with the lack of clarity of the specific nature of the fifth factor in this study, suggests that the five-factor model might be better constrained to a smaller number of factors. However the accepted criteria (both under the Kaiser criterion and the criteria suggested by Preacher and MacCallum (2003)) for factor extraction indicated that five factors were present (though the criteria were only just met). As a result, the possibility of five factors was retained on the basis that to do otherwise would compromise the ability to subsequently test for five factors. Tests for validity in Study 1 and Study 2 would assist in this process.



Table 13. Mean score on MSHSYA items (Pilot Study), by gender

<i>MSHSYA</i> <i>Item</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>10</i>
Male	2.85	2.85	2.26	2.74	2.68	2.60	3.00	2.38	2.28	2.35
Female	2.66	3.02	2.41	2.59	2.55	2.54	2.75	2.41	2.23	2.45
Total	2.77	2.92	2.31	2.72	2.62	2.58	2.92	2.38	2.27	2.38

<i>MSHSYA</i> <i>Item</i>	<i>11</i>	<i>12</i>	<i>13</i>	<i>14</i>	<i>15</i>	<i>16</i>	<i>17</i>	<i>18</i>	<i>19</i>	<i>20</i>
Male	2.38	3.01	2.52	3.31	2.15	2.38	2.83	2.52	2.17	2.05
Female	2.36	2.91	2.36	3.3	2.16	2.54	2.84	2.70	2.34	1.95
Total	2.38	2.99	2.47	3.32	2.16	2.46	2.88	2.58	2.23	2.01

<i>MSHSYA</i> <i>Item</i>	<i>21</i>	<i>22</i>	<i>23</i>	<i>24</i>	<i>25</i>	<i>MSHSYA</i> <i>sum</i> <i>score</i>
Male	2.48	2.24	2.69	3.16	2.67	99.93
Female	2.39	2.34	2.43	2.84	2.57	94.8
Total	2.46	2.28	2.61	3.06	2.66	97.35

As can be seen from the Table 13, total sum score on the MSHSYA instrument was marginally higher for males than for females. Scores on individual items varied with gender: in 15 of the 25 items the males had a higher mean score than the females, with the largest difference being on Item 24 (“Calling someone a comedian is a real insult”). Note that due to the reversed scoring on this item, the results indicated that females tended to feel that calling someone a comedian is an insult more than did males.

T-tests on the item scores and overall MSHSYA scores indicated that there were no significant differences between means due to gender on any item, with the exception of Item 24 (“Calling someone a comedian is a real insult”). The t-test on Item 24 returned  $t = -2.206$  ( $df = 141$ ) which represents a difference between the male and female responses at  $p = .029$ .

This difference may have several possible explanations. Possibly the word “comedian” has a different subcultural meaning amongst young males than amongst young females, or possibly the concept of being a public joker is more acceptable to boys than to girls.

The age differences in affective/emotional development between females and males may mean that females are more likely to be sensitive to any form of implied “name-calling”. The responses to Item 24 may include reactions to the use of any term as a basis for name-calling, and those with a greater level of affective development would be more likely to provide such a reaction. In effect these responses are treating Item 24 (Calling someone a “comedian is a real insult”) as if it reads “Calling anyone a name is a real insult”.

Alternatively, the cognitive complexity of the item may have an influence: to answer it in a humour-positive way involves registering a disagreement (a negative response) to a statement which itself contains a socially negative component (insulting a person). The complexity of resolving these negatives may have confounded the responses, in a way which differs between males and females due to the differences of linguistic and cognitive mastery between genders.

At the Pilot stage it was decided to retain the item in its current form, but to maintain scrutiny over its behaviour in wider use. Additionally, an expert group was used later to assist in interpreting the reasons for the different responses by gender.

#### 4.1.6 Factor scores and dimensions of Sense of Humour (Pilot Study).

If a Sense of Humour instrument is to be useable in a classroom environment, there is a need for it to summarise responses from individuals without losing information on the underlying factors or components of the Sense of Humour construct. Approaches taken in the past have included simple sum scores for the entire instrument (which gives a single value but loses all information on the dimensions of Sense of Humour), and subscale scores using scores on those items which load at some predetermined level on each factor. While the subscale approach provides some valid measure of each factor, it fails to take into account the extent to which each item is linked with the factor (that is, an item with a .9 loading is treated the same as one with a .5 loading, when in fact the first has a far greater relationship to the underlying factor).

A single numeric score representing Sense of Humour as a general construct has some merit if there is a need to rank or identify students on this basis for some reason. However, doing so masks much of the information obtained in the administration of the MSHSYA instrument (or any other based on a multidimensional model). The summation process assumes some properties of the individual scale items: in particular, that they are all approximately equal in what Kerlinger (1964: p. 496) terms “attitude value” or, perhaps more appropriately in this case “construct value”. This implies that say, a score of 3 on one item is comparable in value (the degree to which it indicates an individual’s sense of humour) to a score of 3 on any other item. This need not be the case in reality: as an extreme example, while the two fictitious items “I have laughed on at least one occasion in my life”

and “I seek humour in all I do” both allow a response which can be related to the construct Sense of Humour, few people would see them as being of equal value in doing so.

In addition, a simple sum process assumes that the individual factors or dimensions which make up the construct Sense of Humour contribute to it equally (or if not, the number of items for each factor are proportional to the size of the contribution of that factor to the Sense of Humour construct). Another extreme example may help here: if we were to find that the population identified “sporting achievement” as contributing about 1% to the desirable characteristics of a school principal, it would be inappropriate to assign it a weight of 90% in selecting school principals.

As each of the items in the MSHSYA instrument load to varying extents on one or more criteria, the combining of their scores is more valid if these loadings are used to provide a weighted total. While adding to the complexity of the process, this approach is readily handled by computer.

Accordingly, a weighting/scaling process (described in Appendix A) was used to determine a score on each factor of Sense of Humour for each individual. Descriptive statistics were calculated for each of these scores from the trial group. Results were as shown in Table 14.

Table 14. Scores on dimensions of humour

Scores on dimensions of humour, based on Pilot Study <sup>1</sup>					
		<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>SD</i>
	MSHSYA score	64.1	32.0	99.0	13.2
Factor I	(Production)	62.0	19.9	98.3	14.9
Factor II	(Coping)	60.0	18.1	99.0	15.3
Factor III	(Personal)	68.0	24.7	102.0	15.1
Factor IV	(Social)	67.3	29.4	100.1	13.4
Factor V	(External)	76.4	12.1	135.4	21.2

<sup>1</sup> N=131

The scores, while unstandardised, produced numerical values which are comparable in size to the sorts of scores teachers deal with in testing situations involving scores expressed as percentages. The standard deviations are large enough so that differences between individuals are still evident when the scores are expressed in integer values. While this has no statistical importance, it has some practical significance as it provides readily interpretable values for a classroom teacher without them having to perform a mental shift (as would be the case with, say, scores with a mean of 350 and a standard deviation of 0.01). Numerically, the scores are similar to the sorts of scores already handled by teachers (notably, scores expressed as percentages).

The distribution of each of these factor scores was found to be sufficiently close to a normal distribution, based on the Shapiro-Wilks W-test of normality.

Standardising and normalising these scores relies on a larger sample than was available in the Pilot Study, so at this stage the weighting/scaling process described above was retained as the measure of the components of sense of humour.

A process for graphically representing the profile of a student on each dimension was developed using the weighting/scaling process and, in order to ensure compatibility between the profiles, the process derived from the Pilot Study was retained in the production of these profiles.

#### 4.1.7 Correlative behaviour and validity of MSHSYA instrument (Pilot Study)

To investigate the degree to which the MSHSYA sum score (as a measure of a global construct Sense of Humour) reflects the individual components and aspects of humour, correlations were calculated between the MSHSYA sum score, the Item 25 score (student response to “how would you describe your sense of humour?”) and each of the factor scores for each student. The correlation behaviour is shown in Table 15.

Table 15. Correlation between dimensions of Sense of Humour, MSHSYA score and student self-assessment (Pilot Study)<sup>1</sup>

	Item 25	MSHSYA Sum score	Factor I	Factor II	Factor III	Factor IV	Factor V
Item 25	1.00	.65	.64	.43	.40	.53	.42
MSHSYA Sum score		1.00	.88	.89	.77	.89	.50
Factor I			1.00	.68	.43	.70	.41
Factor II				1.00	.70	.81	.35
Factor III					1.00	.74	.42
Factor IV						1.00	.40
Factor V							1.00

<sup>1</sup>All correlations shown are significant at  $p < .001$ .  $N = 129$ , casewise deletion of missing data.

The correlation between the overall MSHSYA score and the student self-rating of sense of humour was .65, which compares favourably with that obtained by Dowling & Fain (1999, p.42) on a test of concurrent validity for their instrument (MSHSC) which is also based on the original MSHS.

Having established that the instrument behaves predictably internally, the next stage was to validate the measures against independent measures of the sense of humour construct. This was undertaken as a part of Study 1, although the data collected in the Pilot Study did provide one way of verifying that the self-report process was providing a measure of sense of humour.

#### 4.1.8 Relationship between student self-report and teacher report of student sense of humour (Pilot Study)

The rank correlation between student self report (as given in Item 25 of the MSHSYA instrument) and teacher report was found to be .71 ( $N = 83$ ,  $p < .001$  casewise deletion of missing data). Only in one case did student and teacher scores vary by more than 1 scale unit. The regression equation for teacher rating (TR) as a function of student rating (SR) was  $TR = 1.39 + 0.60 SR$  (where both ratings were expressed on a 5-point scale from 0 to 4). In general, and as the regression equation shows, teacher rating was higher than student rating. This finding was unexpected as most research (given earlier) has found that individuals tend to over-estimate their sense of humour (in the sense that the mean rating is above scale midpoint). An alternative view might be that teachers over-estimate the sense of humour of their students even more than the students themselves. Comparison of the mean scores recorded by students on self-report and teacher report shows a minimal difference (3.20 vs 3.25) although both values are well above the midpoint of the scale used.

Having shown a strong correlation between the overall sense of humour ratings obtained by self-report and external rater, the next step is to investigate the correlation between student MSHSYA score and the overall sense of humour rating of the student by their teacher. For these purposes, the values of the sense of humour ratings were treated as continuous variables, which is not strictly correct as they were derived from a 5-point scale. However, this approach is not uncommon and is argued as a valid case by several sources (Johnson & Creech, 1983; Zumbo & Zimmerman, 1993; Jaccard & Choi, 1996). The correlation was found to be .77, ( $N = 83$ ,  $p < .001$ , casewise deletion of missing data). Regression for MSHSYA as a function of teacher rating of sense of humour (TR) was  $MSHSYA = 43.89 +$



7.29 \* TR.

#### 4.1.9 Instrument problems identified in the Pilot Study

##### 4.1.9.1 *Self-administration issues*

The use of a self-administered instrument with school-aged children produces some problems. The most obvious is that caused by low literacy levels, accompanied by a reluctance for some low-literacy students to admit their difficulty. This is particularly problematic when the task of making a response can physically be performed without reading items, so a low-literacy student can appear to have completed a task without actually having understood or interpreted any of the items.

In a school environment, this problem is manageable by asking teachers to identify children likely to have literacy or interpretation problems. In such cases the questions can be read to the child and assistance given in the use of the Likert scale response. However, the process relies heavily on advance identification of the students likely to have literacy problems, which is not always possible (for example, if the student is new to the school setting).

In the case of the Pilot Study, the main post-administration indicator of low literacy was the failure to complete the personal details section of the student instrument. In such cases the teacher was consulted to determine if the responses should be included in the data set.

##### 4.1.9.2 *Unconsidered responses*

The tendency of some children to simply fill in the survey with random responses, or to provide identical responses to all questions (notably by responding to all items at one end of the scale) is somewhat harder to control. It is highly unlikely that an individual would validly

respond to all items at the same extreme end of the scale, as several items are reversed in sense. Thus a case in which a student answered all questions as *strongly agree* or *strongly disagree* is highly unlikely to be the result of a considered response, and may be considered as a candidate for exclusion from the dataset. Responses of this sort are readily identifiable, and their presence raises an alert for discussion of these cases with teaching staff to determine if the responses are likely to be valid or not. Random responses are largely undetectable other than by using repetition of the testing. Even so, some responses may be duplicated if the student has used some algorithm to generate their response (an example is a student who insisted on responding to multiple choice questions by repeating the sequence *ACDC ACDC*, this being the name of a popular rock band).

#### 4.1.9.3 *Extreme response types*

A separate problem was observed in trialling, while undertaking one-on-one administration with a group of young adults in a custodial care institution. Many of these students had a history of literacy problems and difficulty coping with formal tasks, so the instrument was read to them and assistance given in interpretation. Many of these subjects showed a tendency to answer all questions with an extreme response, which validly reflected the direction of their response. However, in answering, the student was unwilling to give anything but an extreme response: they found it inherently difficult to perceive any gradations or “shades of grey” in their own views (this tendency was also evident in other facets of their behaviour). For them, many concepts had either their extreme support or extreme opposition (this was not confined to the completion of questionnaires). The subjects were observed deliberating for some time, puzzling over an item, vocalising their indecision, then finally opting for an extreme response once they had determined which way their feelings lay. Thus, a slight agreement or disagreement in the person’s mind is driven to a

strong agreement or disagreement in the response. This characteristic of seeing agreement/disagreement as being dichotomous rather than a continuum leads to distorted scores: the sum score and individual factor scores are driven towards a maximum or minimum. There appears to be no simple way to detect this tendency (except perhaps by devising test items for which an extreme response is invalid), or to separate such respondents from those who validly answer with extreme values. The separation of this type of respondent would of course only be possible if the subjects could be identified as possessing this tendency, which would require either one-on-one administration for every student (highly unlikely in a classroom setting) or some other indicator of the behaviour. The tendency appears to be a personality characteristic; in the personality theory of Kelly (1963), the individual has not refined their personal construction system beyond a relatively primitive level. It is thus likely that clinical testing will identify such individuals, but this is not feasible in the context of the widespread use of the MSHSYA instrument, which has simplicity of administration as a key attribute. It may, however, be appropriate in screening subjects who are likely to exhibit such behaviour (for example those with identified personality disorders). Fortunately, such individuals are more likely to have sufficient support in the school sector to enable one-on-one administration of the MSHSYA instrument, which may allow the administering officer to judge depth of agreement from other cues.

The issues associated with extreme responses have implications for the interpretation of the MSHSYA instrument.

In cases where a cohort includes students who only give extremes of response, the overall sum score is clearly of limited value for comparing individuals if some of these individuals

are answering only with extreme responses. Changes in sense of humour in one individual over time may be still be identifiable, but may also be confounded by changes in the tendency to see constructs as dichotomous.

In the cases in question, the relative scores on each of the identified dimensions of Sense of Humour will still provide useful information, in terms of relative strengths and weaknesses, and this would seem to be a more useful interpretative technique for classroom purposes.

The relative dimensions of sense of humour are conveyed readily by the shape of the Sense of Humour Profile graph (described in the next section): deviations from the “average” graph (which is basically a regular polygon) are easily detected, as are the corresponding strengths and weaknesses.

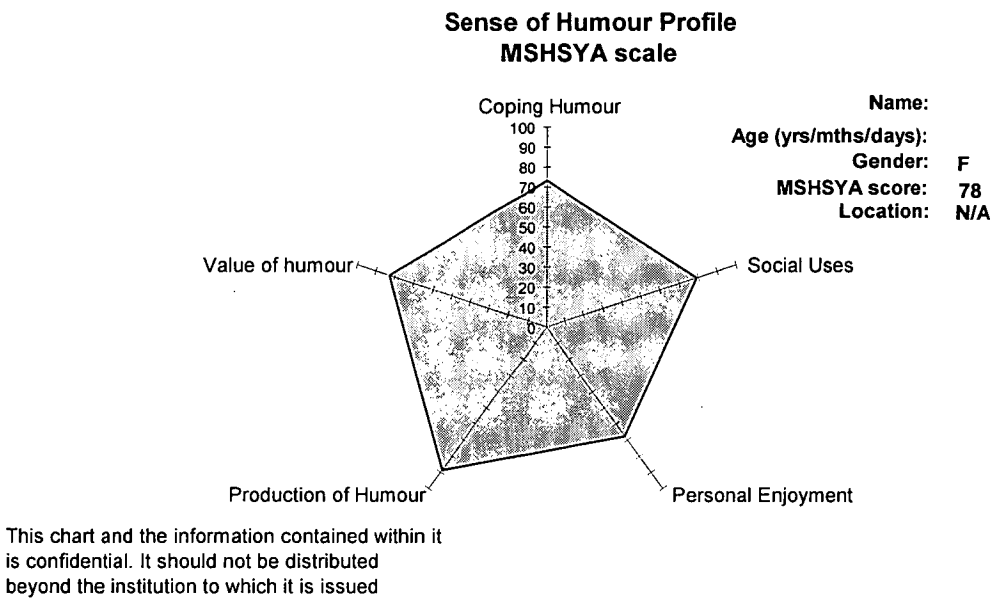
#### 4.1.10 Representing sense of humour profiles

As the factor stability of the MSHSYA instrument has been established, it is useful to consider how best to represent the dimensions of sense of humour for an individual. The five values (scores) on the five dimensions derived from factor structure could simply be listed as a 5-tuple, but this has little value to a teacher as a way of quickly interpreting the profile of a student.

A graphical representation was deemed most useful by teachers. A model was adopted for this study that used a simple five-axis graph to represent the five values, producing a pentagonal figure in which extremes were readily discernible.

An example of this profile, which was shown to teachers for descriptive purposes, is shown in Figure 7. It should be noted that the dimension names shown are based on an interpretation of the five derived factors from early stages of the Pilot Study and in this

instance the scaling is based on the Pilot Study factor loadings.



*Figure 7. Example of graphical representation of Sense of Humour Profile*

1. Scaling in this profile is based on cumulative norms as of April 1999.

4.1.11 Issues remaining at the end of Pilot Study

At the conclusion of the Pilot Study, some questions remained. The most important one related to the factor structure that was identified. While the factor structure was validated by commonly accepted guidelines (including the more rigorous criteria proposed in the 1990s), there remained an issue of interpretation. The factors have been given the titles *Production of Humour*, *Coping Humour*, *Personal Enjoyment of Humour*, *Social Use of Humour* and *Humour as External to Self*. This last factor is not readily interpreted and is open to clarification.

## 4.2 Study 1

Having established that the MSHSYA instrument behaves predictably in a statistical sense, it is necessary to ensure that it has validity as a measure of SOH (Sense of Humour). To investigate this validity, other measures of the SOH construct were used and correlations established between them and the various components of the MSHSYA.

After completion of the data collection process for Study 1, the following sets of data were available.

- Data Set A: for each group of students, a self-administered MSHSYA questionnaire, with scores on each of 25 questions, an MSHSYA sum score and subsequent profile for the student, giving numeric scores on each of five dimensions of SOH.
- Data Set B: for some of these students, a set of ratings of their SOH as determined by peers. The number of ratings for each student varied, according to how many students were able to comment on them. Responses were based on a 5-point scale, single dimension (the first data collection asked for peer rating on each of 5 factors, each on a 5-point Likert scale, but this proved unworkable with many students).
- Data Set C: for some of these students, a rating on each of the 5 dimensions reported by their teacher. The teacher reporting varies from student to student (but remains constant within any student group), but those reported are by teachers who know the student well. In the case of one group, the ratings were not against each of the five dimensions, but simply a single rating as the data were collected prior to complete analysis of the Pilot Study data.
- Data Set D: for each teacher, a self-administered MSHSYA questionnaire with scores on

each of 25 questions and subsequent profile for the teacher, giving numeric scores on each of five dimensions of SOH.

The analysis proceeded as follows:

4.2.1 Relationship between peer and teacher rating of student Sense of Humour (Study 1).

In order to correlate MSHSYA scores with external ratings, it is useful to verify that the external ratings are in fact measuring similar properties to one another. While the rating of students by experienced teachers has some face validity, the peer rating has less face validity given the likely ranges of experience and ability in judgement within the student population.

Correlations of peer (Data Set B) and teacher (Data Set C) ratings are as shown in Table 16.

Table 16. Correlation of peer and teacher ratings of SOH (Study 1)<sup>1</sup>

	<i>Teacher rating of student</i>				
	Coping Humour	Social use of humor	Personal enjoyment	Production	Value attached to humour
Rating by peers	.51	.56	.50	.52	.55

<sup>1</sup> N=148 All correlations significant at  $p < .001$ . Casewise deletion of missing data.

The correlations displayed in Table 16 are all significant, although not especially large. They indicate that the teacher and peer ratings are largely measuring a common underlying construct, and the individual components of the teacher rating are indicative of a common core element.

#### 4.2.2 Relationship between student MSHSYA, scores on five dimensions of SOH, and teacher rating of student sense of humour (Study 1).

As reported in the Pilot Study, a strong correlation was found between student self-report of SOH (both as a single item response and as an overall MSHSYA score) and the summative rating given by their teachers. This relationship was investigated further based on Study 1 data.

The data in Set A (student self-report) were subjected to correlational analysis with that in Set C (teacher report on student). Analysis was based on each of the five dimensions of SOH in Set A and in Set C, and on the overall scores. This provides a basis for establishing the validity of the instrument at the factor level.

Data included peer report on student SOH and teacher report at individual component level.

The component level was separated into

- social use of humour,
- use of humour for coping,
- production and humour creativity,
- personal enjoyment of humour,
- value placed on humour.

These correspond to the factors identified in the Pilot Study, although the social use and production/creativity have been separated to allow for a more accurate interpretation of the first factor, which was seen as production of humour by Dowling and Fain (1999) and production and creativity humour by Thorson and Powell.

Correlation between Data Set A (Student self-report, generating values for five factors) and



Data Set C (Teacher report, giving five factors directly) is given in Table 17.

Table 17. Correlation between student self-report and teacher report (Study 1)<sup>1</sup>

<i>Self-report</i>	<i>Teacher rating of student</i>				
	Production of humour	Coping humour	Personal Humour	Social Humour	Value of Humour <sup>2</sup>
Production of humour	.56	.29	.34	.33	.32
Coping humour		.54			
Personal Humour			.54		
Social Humour				.57	
External Humour					.27

<sup>1</sup>All correlations shown are significant at  $p < .01$ .  $N = 152$ .

<sup>2</sup>Value of Humour as interpreted in Pilot Study.

The Teacher rating on the last dimension of SOH was based on a preliminary analysis of the Pilot Study data, which interpreted the fifth factor as the value which the student placed on humour. As this was the term used on the instrument used by teachers, it is reported as such. Subsequently, the full set of data has been analysed and the factor has been interpreted as the extent to which students see humour as external to themselves.

The relatively low correlation between teacher assessment of SOH dimensions and student

self-report scores is an interesting and largely unexpected phenomenon, as one might imagine that, in particular, the Production aspect of SOH would be one of the most visible and memorable characteristics of a child in a classroom environment. The possible reasons for this low correlation are listed below.

- the global nature of the teacher's assessment, which was spread over a class of students as opposed to the single student (themselves) under consideration by children performing a self-report. This will inevitably result in a less considered assessment by the teacher. In addition, the process of children considering each of 24 items may promote closer analysis of their own attributes, which in turn may result in more accurate reporting than the single response asked from their teacher.
- a mismatch between a child's view of themselves and their teacher's view of them.
- an inherent difference between what the child was describing and what the teacher was describing, i.e., an inherent difference between Sense of Humour as understood by children, and Sense of Humour as understood by adults. This reason can be investigated through a peer-evaluation of SOH.
- a difference between the factor interpretation and the aspect of humour reported by the teachers. This would also be tested through peer-evaluation.

The student's self-report of Production of Humour correlated with other dimensions of SOH as reported by teachers. This is perhaps because Production is the most visible of the dimensions, and a student who produces humour may be seen to use that humour for other purposes. Conversely, a student who does not exhibit any humour production may well not have an opportunity to have the other dimensions recognised.

The poor correlation between teacher and student score on Factor V (Value of

Humour/External Humour) is almost certainly due to an invalid interpretation of the factor during the Pilot Study, which was not corrected until the data for Study 1 was collected.

Although there are some similarities between the incorrect and correct interpretation, the actual interpretation of this factor remains in doubt.

#### 4.2.3 Relationship between student MSHSYA, scores on five dimensions of SOH, and peer rating of student SOH (Study 1)

In order to further validate the use of the MSHSYA as a self-report instrument, correlational analysis was undertaken between Data Set A and Data Set B. Specifically, the score on each of the five dimensions of SOH and the overall SOH score in Data Set A was correlated with the value in Data Set B (for students on which data was available). This gave a measure of the validity of the MSHSYA instrument as an indicator of the construct Sense of Humour, as identified by peers, and also of the relationship between the individual dimensions as measured by MSHSYA and the peer-reported SOH.

The correlation between overall MSHSYA score and Peer Rating was .51 ( $N = 183$ ,  $p < .001$ ).

Correlation between Data Set A (Student self-report, generating values for five factors) and Data Set B (Peer report, giving five factors directly) is given in Table 18.

Table 18. Correlation between student self-report and peer report (Study 1)<sup>1</sup>.

	Factor I	Factor II	Factor III	Factor IV	Factor V
Peer rating	.41	.45	.37	.47	.40

<sup>1</sup> *N* = 181. All correlations significant at *p* < .001. Casewise deletion of missing data.

These correlations are significant but may be seen as relatively low. The interpretation of their adequacy depends in part on the nature of the construct being measured. If SOH had a readily-recognised and agreed form, and was able to be authoritatively defined and measured (in the way that, say, height is measured), it would be expected that any tool would correlate very strongly with existing tools. However it is clear that SOH, while well-understood in theoretical terms, is largely defined operationally and in a way which includes a large proportion of individual interpretation. The correlation between peer and teacher ratings was around .5, indicating that even to an external observer Sense of Humour has a subjective component. A self-report would not be expected to display higher correlation to ratings by external observers.

By way of comparison, Dowling and Fain (1999) found correlation of .42 between overall SOH rating and their MSHSC sum score. An intercorrelation between 8 humour instruments undertaken as part of a wider study by Köhler and Ruch (1996) showed that even at subscale level, intercorrelation between instruments was not particularly high (for self-report scales, median correlations of .34 between different humour appreciation scales, .56 between different humour creation scales, and .40 for appreciation scales against creation scales). While Köhler and Ruch found better behaviour from performance measures, these measures

are in general not usable in the anticipated classroom setting.

In work done prior to the development of the MSHS Thorson and Powell (1991) correlated three scales designed to measure SOH (Svebak’s Sense of Humor Questionnaire SHQ, Martin and Lefcourt’s Situational Humor Response Questionnaire SHRQ and Martin and Lefcourt’s Coping Humor Scale CHS) and found intercorrelations as shown in Table 19.

Table 19. Intercorrelation of three Sense of Humour scales<sup>1</sup>

	<i>Scale</i>		
	SHQ	SHRQ	CHS
SHQ	1.00	.395	.395
SHRQ		1.00	.118
CHS			1.00

<sup>1</sup>Thorson & Powell, 1991

As can be seen, correlations are again all under .4. In validating the SHRQ instrument, Lefcourt and Martin (Martin,1996) used the ratings of peers (nominated by the subjects) as a way of confirming that the SHRQ did indeed measure the subjects’ Sense of Humour. Correlations of .30 to .50 were obtained. In validating the accompanying CHS (Coping Humor Scale), a similar process produced stronger correlations of around .50 .

It appears therefore that the significant but not particularly high correlations obtained between self-report and external ratings in this study are typical of what has been found when other sets of measure of sense of humour are intercorrelated.

From the findings above and in the Pilot Study, the MSHSYA instrument is demonstrated to be a reliable and valid measure of the overall Sense of Humour.

### 4.3 Study 2

The essential purpose of Study 2 was to identify relationships between student Sense of Humour Profiles, teacher Sense of Humour profiles and the student-teacher relationship.

After completion of the data collection process for Study 2, the following sets of data were available.

- Data Set A: for each group of students, a self-administered MSHSYA questionnaire, with scores on each of 25 questions, an MSHSYA sum score and subsequent profile for the student, giving numeric scores on each of five dimensions of SOH.
- Data Set B: for some of these students, a set of ratings of their SOH as determined by peers. The number of ratings for each student varied, according to how many students were able to comment on them. Responses were based on a 5-point scale, single dimension (the first data collection asked for peer rating on each of 5 factors, each on a 5-point Likert scale, but this proved unworkable with many students).
- Data Set C: for some of these students, a rating on each of the 5 dimensions of SOH as reported by their teacher. The teacher reporting varies from student to student (but remains constant within any student group), but those reported are by teachers who know the student well.
- Data Set D: for each teacher, a self-administered MSHSYA questionnaire with scores on each of 25 questions and subsequent profile for the teacher, giving numeric scores on each of five dimensions of SOH.
- Data Set E: for each student, a preferred teacher and their associated SOH data (five

dimensions and MSHSYA sum score).

#### 4.3.1 Preliminary issue: Incomplete data

The method employed used voluntary involvement of both students and staff. This presented a risk of incomplete data, and more particularly it increased the chances of having key pieces of data missing. In addition, the use of peer reporting means that some students may receive very high numbers of peer reports, while others may receive only one or two (or none). As students vary in their ability to judge others accurately, and in the rigour or leniency of their scoring, a difficult-to-control variable is introduced into the model.

One approach may be to discard the data for any student on whom there are fewer than some minimum number of peer reports, on the basis that having only a few peer reports does not provide sufficient triangulation of data. However, the nature of peer reports means that this would, in effect, result in a data set that excluded unpopular students, and hence a loss of representativeness. This limits the generalisability of the findings (one could argue that under those circumstances the findings are only applicable to popular students). The approach that was decided upon was to perform a series of analyses in which only students with 3 or more reports were included, then those with 2 or more, and then finally those with a single report. This gave analyses which began with only those students with multiple reports (the “well-reported”), and which gradually gathered more students as less stringent conditions applied. If the addition of these “less-reported” students did not appear to affect the results, they could validly be included. This was found to be the case, thus indicating that a single report was, in general, adequate.

It was initially thought that the problem of variation in rating (inter-rater reliability) between

students might be partially removed statistically by examining each student's ratings of the same subject, and developing a "rater factor" to compensate for variations in lenience and rigour. However the incidence of missing data makes this strategy less useful than might have been expected. Examination of the data shows that some students confined their peer reports to small groups: for example, a group of five students might only report on others in that group. Consequently it is not possible to compare their ratings with the wider student body as there is no common data on which to base the comparison.

In the light of the above discussion it is clear that there are some practical limitations on the methodology which can only be overcome with a perfect environment, in which every student can comment on every other. However as the study relates to real classroom environments, an authentic environment was deemed more appropriate despite its limitations.

For the calculations involving peer rating of students, students with multiple ratings were included in the calculations using the mean of those ratings as a single value.

#### 4.3.2 Preliminary issue: Clustering of teacher characteristics

While students represent almost a complete cross-section of young people (with the exception of certain groups who do not use the school system), teachers do not. There is adequate evidence that teachers (as with most career groups) tend to possess certain characteristics with frequencies different to the wider population; career aptitude testing relies on this assumption, for example. At a macro level, some characteristics are evident; for example, teachers tend to hold middle-class values, and primary teachers tend to have a higher percentage of females than the wider population. It is not unreasonable to propose that



teachers also share some common personality traits. Consequently, it is reasonable to expect that some patterns in SOH profile may be evident amongst teachers that are not representative of the wider population. While identifying the differences between teachers and the general population was not the focus of the current research, the possible clustering of teachers around a “teacher sense of humour profile” would threaten the ability of the study to find correlation between student SOH profile and preferred teacher SOH profile. In an extreme case, if all teachers had identical SOH profiles there would be no differentiation of one child’s choice of teacher from another (and consequently the scatter graph of student SOH against preferred teacher SOH would have no scatter, making correlational study impossible). This extreme was not found, but the clustering of teacher SOH profiles does place a limit on the possible relationship that can be derived.

The observed variation in teacher scores were seen to be adequate, based on the standard deviation in each of the scores (Table 20).

#### 4.3.3 Differences between teacher and student “norms” (Study 2)

At the same time as measuring spread of values, a comparison was made to determine if there were any significant differences between students and teachers in terms of scores on the MSHSYA instrument. The results are shown in Table 20.

Table 20. Comparison of scores on the MSHSYA instrument for teacher and student cohort (Study 2).

Item	<i>M</i> (students)	<i>M</i> (teachers)	<i>t</i>	<i>df</i>	<i>p</i>	<i>SD</i> (student)	<i>SD</i> (teachers)
1	2.78	2.91	-1.13	716	.26	0.88	0.74
2	2.91	2.67	1.72	716	.09	0.96	1.23
3	2.58	2.91	-2.34	716	.02	1.06	1.02
4	2.74	2.86	-1.06	715	.29	0.85	0.83
5	2.75	3.04	-1.91	715	.06	1.08	1.30
6	2.57	2.42	1.14	715	.26	0.92	0.89
7	2.93	2.84	0.80	715	.42	0.82	0.89
8	2.50	2.39	0.85	713	.40	0.94	1.01
9	2.33	2.70	-2.75	716	.01	1.00	0.89
10	2.63	3.21	-4.29	715	.00	1.01	0.70
11	2.20	1.98	1.43	715	.15	1.09	1.13
12	2.87	2.72	1.05	714	.30	1.05	1.29
13	2.40	2.54	-1.08	715	.28	0.97	0.89
14	3.36	3.44	-0.78	715	.43	0.78	0.68
15	2.14	2.81	-4.90	715	.00	0.98	1.01
16	2.34	2.44	-0.61	715	.54	1.22	1.17
17	2.84	2.93	-0.77	714	.44	0.85	0.68
18	2.76	3.39	-4.41	715	.00	1.05	0.65
19	2.43	3.02	-4.44	714	.00	0.98	0.79
20	1.99	2.00	-0.04	715	.97	1.56	1.02

Item (continued)	<i>M</i> (students)	<i>M</i> (teachers)	<i>t</i>	<i>df</i>	<i>p</i>	<i>SD</i> (student)	<i>SD</i> (teachers)
21	2.40	2.70	-1.88	714	.06	1.16	1.20
22	2.46	3.19	-5.39	715	.00	1.00	0.67
23	2.62	2.60	0.21	714	.84	0.94	1.07
24	2.91	2.56	2.34	713	.02	1.04	1.34
MSHSYA	62.34	65.72	-2.10	709	.04	11.66	11.23

In general the *SD* of teacher scores and student scores are comparable, with all teacher scores exhibiting adequate spread. The lowest of the teacher standard deviations was on Item 18, where standard deviation was 0.648 compared with 1.049 for the wider student sample.

*T*-tests comparing student and teacher score were consistent with the teacher and student scores coming from the same distribution on Items 1, 2, 4, 5, 6, 7, 8, 11, 12, 13, 14, 16, 17, 20, 21 and 23. However on MSHSYA Items 3, 9, 10, 15, 18, 19, 22, 24 and the overall MSHSYA score the scores were sufficiently different to suggest that they were from different distributions, that is the nature of teacher responses was inherently different to that of students. In all cases except Item 24 this was a difference in favour of the teachers, that is the teacher group scored (or more accurately, rated itself) more highly on these items than did students.

In summary, the data indicated that for the sample in this study, teachers tended to score more highly than students on the Sense of Humour dimensions identified in the self-report MSHSYA. This may be a characteristic of adults in general or may be associated with a characteristic tendency or personality that is more prevalent in teachers, or may simply be a characteristic of the group of teachers. The difference in scores for separate investigation but

the important thing for this study is that teacher responses are not so tightly bunched as to make differentiation impossible.

#### 4.3.4 Mainstream students compared to At-Risk students (Study 2)

Included within the Study 2 data was small cohort of students at risk of leaving mainstream education (these students were in a custodial care facility or a special program that removed them from conventional schooling, with histories of school refusal or socially unacceptable behaviour). While this group was not large ( $n = 21$ , 13 male, 6 female, 2 no gender specified) the individuals were sufficiently different (in terms of their engagement with education) to mainstream students to warrant an investigation of any sense of humour differences.

Performing a t-test on the data for the “at-risk” group and the mainstream students resulted in no significant differences apart from two items, where the At-Risk students scored significantly lower than mainstream students. These were Item 15, “I can actually have some control over my group by my uses of humour” ( $t = 2.01$ ,  $df = 714$ ,  $p = .04$ ) and Item 19, “I can use humour to adapt to many situations” ( $t = 3.41$ ,  $df = 714$ ,  $p = .0007$ ).

The teachers of these students (who had considerable experience in dealing with “at-risk” students) indicated that at-risk students generally had a poor command of social skills and had limited and sometimes unusual strategies to adapt to situations or to cope with pressure. Use of humour was, in general, not one of these strategies, and less socially accepted strategies were more common. Several teachers indicated that development of more useful strategies (such as the use of humour) is of value to these students, although none had specifically focussed on humour.

The scores for the At-Risk group exhibited greater variance than the Mainstream group on all

but 4 of the 24 MSHSYA items. The Sense of Humour dimension scores exhibited similar difference in variance. This wider range of scores is largely the consequence of the behaviour observed when students completed the MSHSYA instrument, where they were reluctant to choose any score other than an extreme. This behaviour is indicative of the general difficulty faced by the At-Risk students in dealing with gradation or degrees of agreement, which is also evident in their friendships and wider behaviour. The different selection process used by these students in identifying a point on a Likert scale, as mentioned previously, may compromise the comparison of their self-reports with those of mainstream students: the score differences will reflect differences in selection as well as differences in the underlying humour traits, producing an error component that is not easy to isolate.

#### 4.3.5 Preferred teacher and student relationship (Study 2)

Analysis within Study 2 involved, for each student, teacher(s) identified as the student's "preferred teacher" as described in Data set E.

Initially analysis was attempted for all preferred teachers listed by each student, progressively by rank order. However, the number of preferred teachers varied from student to student, and in some cases students had ranked as many as 15 teachers. To treat a teacher ranked 15<sup>th</sup> in the same way as a teacher ranked first was clearly inappropriate, and assigning weighting to the ranking raised issues of how that weighting may be derived. As a result, it was decided to use only the first-ranked teacher for each student on the basis that the first-ranked teacher was less dependent on the number of teachers whom the student knew well.

This process gave a set of pairs of values representing the SOH scores (on each of 5 dimensions) of students with their preferred teachers.

Two approaches were used to investigate the relationship between student and preferred teachers' SOH profiles: an approach based on the similarity of corresponding scores on the dimensions of SOH, and a correlational approach.

#### *4.3.5.1 Initial approach using similarity measure*

The first approach was based on a measure of similarity of teacher and student scores which was suggested by some teachers involved in the study as being a useful tool. The approach was, however based on the assumption that it would be useful for teachers to know this similarity, as it may form a basis for the student-teacher relationship. However, it will be seen later that this assumption is not valid.

The process described in Appendix M was used and the index of similarity was calculated first for each student with their preferred teacher and then for each student with the "average" teacher (obtained by taking the mean of the teacher scores on each dimension of Sense of Humour). The mean values of these similarity indices were compared.

The indications were that students were less similar to their preferred teacher than to the average teacher. This difference was highly significant ( $t = 24.6$ ,  $df = 309$ ,  $p < .00001$ ) and it indicated that similarity of Sense of Humour Profile was not a characteristic of students and preferred teachers, at least if taken at the gross level (i.e., without considering individual dimensions separately).

The similarity measure would be of use only if similarity of Sense of Humour profile is in fact a contributing factor to the selection of preferred teachers. As this was not the case, the use of the similarity measure was terminated at this stage although the representation of Sense of Humour profiles in graphical form may continue to have utility to teachers.

#### 4.3.5.2 *Correlational analysis: overall relationships*

The correlation between overall SOH for student and their preferred teacher was determined for each student-preferred teacher pair.

At the level of the five dimensions of Sense of Humour, correlations were calculated between preferred teacher and student scores on each dimension. A one-for-one correlational analysis (ie, one in which only correlations between corresponding factors were investigated) was not adequate: such an analysis would fail to include possible correlations between one dimension for a student and a different dimension for the teacher. For example, it may be the case that Students with a high score on Personal Enjoyment of Humour did not prefer teachers with high scores on this same dimension. It may be that such students would identify preferred teachers with a high score on Production of Humour, as this would provide fulfilment of their need for enjoyment. Consequently, a 5 x 5 matrix of correlations was constructed in order to identify relationships between any dimensions for students and their preferred teachers.

The correlation was undertaken separately for female and male students, and within these student groups the analysis was further split by teacher gender. Anecdotally, teacher gender was referred to as a strong influence on students' selection of preferred teachers, and the data supported this belief. Of the male students, 35.5% chose a female preferred teacher and 64.5% a male. For the female students, the situation was almost exactly reversed; 63.6% chose a female teacher and 36.3% a male. The available teacher "pool" from which students identified preferred teachers (more precisely, the set of teachers identified as preferred teacher by at least one student, and who validly completed the MSHSYA instrument) was 60.3% female, a percentage that reflects the predominance of females in the teaching

profession.

For the group of students as a whole, weak correlation was identified between variables as shown in Table 21. While the correlations were statistically significant, they were not strong and do not provide sufficient evidence to claim that Sense of Humour (as a single construct) plays a major role in determining preferred teacher at this level.

Table 21. Correlations between student and preferred teacher Sense of Humour dimensions (all students)<sup>1</sup>.

<i>Student Factor</i>	<i>Teacher Factor</i>				
	Production	Coping	Personal	Social	External
Production	-.04	.06	.03	.06	-.03
Coping	-.03	.06	.04	.13 *	-.01
Personal	-.02	.12 *	.15 **	.19 **	.11 *
Social	-.04	.09	.11 *	.15 **	.01
External	.03	.17 **	.17 **	.14 *	.07

1. N =420 (Casewise deletion of missing data)

\* indicates significant at  $p < .05$

\*\* indicates significant at  $p < .01$

Informal speculation had been made by teachers in the study that much of the student-preferred teacher relationship would be explained by similarity on dimensions of Sense of Humour. Similarity on attitude and other personal characteristics has been shown to be an important mechanism in interpersonal attraction (Byrne,1971) in the selection of adolescent friends (Aboud, F.E. & Mendelson, M.J, 1996; Thomas & Berndt, 2004) and marriage partners (Murstein & Christy, 1976).



In this study however, similarity on humour dimensions was not found to be a major factor in preferred teacher selections, at least when taken over the entire sample.

The only two corresponding factors that exhibited significant correlation were Factors III and IV, the Personal Use of Humour and Social Use. It is readily understandable that students who used humour socially could identify strongly with a teacher who does the same, as the classroom is a very social environment. However the reasons for correlation between teacher and student Personal Use of humour are harder to explain: it is not immediately obvious how a teacher's personal use of humour would be evident to students, unless it is revealed through other means such as vocalised reflection or reaction to student-generated humour. If Personal Use of humour does produce some behaviours that are externally observable, the correlation is an example of attraction based on similarity.

Teacher Social Use of humour correlated positively with student Personal Use of humour, a situation which is reflected in the student who enjoys the classroom humour climate encouraged by a teacher with this predisposition. Interestingly the teacher Production of humour did not demonstrate significant correlation with student Personal Use of humour (or with any other variable). When teachers were approached about participating in this study, many were concerned that they weren't strong "stand-up comics", thinking that would be the most valued humour dimension and would contribute to preferred teacher status amongst students who liked humour. This was not the case.

Once the gender variable was removed, the relationships were more readily identifiable (Table 22, Table 23).

Table 22. Correlations between student and preferred teacher Sense of Humour dimensions  
(all female students)<sup>1</sup>.

<i>Student Factor</i>	<i>Teacher Factor</i>				
	Production	Coping	Personal	Social	External
Production	-.04	.08	.10	.11	.02
Coping	-.03	.09	.11	.16 *	-.01
Personal	-.04	.20 **	.25 **	.26 **	.18 **
Social	-.06	.14 *	.21 **	.20 **	.09
External	-.03	.16 *	.21 **	.12	.25 **

<sup>1</sup>N=234 (Casewise deletion of missing data)

\* indicates significant at  $p < .05$

\*\* indicates significant at  $p < .01$

Table 23. Correlations between student and preferred teacher Sense of Humour dimensions  
(all male students)<sup>1</sup>.

<i>Student Factor</i>	<i>Teacher Factor</i>				
	Production	Coping	Personal	Social	External
Production	-.05	.04	-.06	-.01	-.06
Coping	-.02	.00	-.06	.08	-.02
Personal	.03	-.02	-.04	.08	.00
Social	-.01	.04	-.02	.09	-.06
External	.11	.18 *	.12	.17 *	-.11

<sup>1</sup>N=186 (Casewise deletion of missing data)

\* indicates significant at  $p < .05$

4.3.5.3 Gender differences

Analysis was broken down by gender of student and gender of teacher. This was done in an attempt to isolate an anticipated relationship in which students preferred teachers based on gender similarity regardless of any Sense of Humour characteristic.

Table 24. Correlations between student and preferred teacher Sense of Humour dimensions (all female students with male preferred teachers)<sup>1</sup>.

<i>Student Factor</i>	<i>Teacher Factor</i>				
	Production	Coping	Personal	Social	External
Production	-.28 *	-.15	.07	-.04	-.09
Coping	-.25 *	-.11	.10	-.08	-.12
Personal	-.17	-.02	.15	.07	-.01
Social	-.26 *	-.13	.07	-.03	-.15
External	.11	.25 *	.29 **	.26 *	.23 *

<sup>1</sup> N = 82 (Casewise deletion of missing data)

\* indicates significant at  $p < .05$

\*\* indicates significant at  $p < .01$

Table 25. Correlations between student and preferred teacher Sense of Humour dimensions  
(all female students with female preferred teachers)<sup>1</sup>.

<i>Student Factor</i>	<i>Teacher Factor</i>				
	Production	Coping	Personal	Social	External
Production	.08	.16 *	.13	.15	.06
Coping	.08	.18 *	.16	.27 **	.06
Personal	.03	.30 **	.34**	.35 **	.29 **
Social	.03	.24 **	.28**	.29 **	.20 *
External	-.16	.13	.27 **	.12	.31 **

<sup>1</sup> N=152 (Casewise deletion of missing data)

\* indicates significant at  $p < .05$

\*\* indicates significant at  $p < .01$

Table 26. Correlations between student and preferred teacher Sense of Humour dimensions  
(all male students with male preferred teachers)<sup>1</sup>.

<i>Student Factor</i>	<i>Teacher Factor</i>				
	Production	Coping	Personal	Social	External
Production	.00	.08	-.01	.05	.04
Coping	-.08	-.04	-.05	.00	.04
Personal	-.07	-.12	-.09	-.11	-.02
Social	.00	-.00	-.05	.00	.04
External	.12	.18	.14	.07	-.13

<sup>1</sup> N=120 (Casewise deletion of missing data)

No correlations are significant at  $p < .05$

Table 27. Correlations between student and preferred teacher Sense of Humour dimensions (all male students with female preferred teachers)<sup>1</sup>.

<i>Student Factor</i>	<i>Teacher Factor</i>				
	Production	Coping	Personal	Social	External
Production	-.17	-.04	-.04	-.02	-.13
Coping	.08	.07	-.12	.16	-.13
Personal	.23	.15	-.12	.18	-.09
Social	-.02	.09	-.00	.19	-.18
External	.12	.20	.06	.22	-.16

<sup>1</sup> N=66 (Casewise deletion of missing data)

No correlations are significant at  $p < .05$

As can be seen in Tables 25 and 26 the data for male students yielded little or no association between Sense of Humour dimensions of student and preferred teacher. In some cases the correlations were literally zero. This was an unexpected result, although it must be kept in mind that a range of other teacher characteristics independent of sense of humour are known to influence the selection of preferred teacher, and without the ability to remove the effect of these characteristics the correlational process will be necessarily a blunt weapon. It is thus more realistic to say that if any relationships exist they were unable to be identified through this approach.

However for female students the correlations were more convincing: relationships were evident and the nature of these relationships varied between male and female preferred teachers (Tables 23 and 24).

#### 4.3.5.4 *Student -preferred teacher relationship: differences by student gender*

When the sense of humour dimensions of female students and their preferred teachers (both genders) are examined, a significant correlation exists between the Factor III (Personal Use of humour) scores for students and teachers. That is, students scoring high on that factor tended to prefer teachers who also scored high. This is most likely an instance of a shared personality characteristic leading to preference based on similarity, although as it operates at a personal level it is not easy to see how it might manifest in classroom interaction.

However, as with other characteristics such as favourite sports team, ethnic background or hobbies, the existence of some shared feature may be sufficient to establish a common bond. Use of such bonds is well understood by many skilled teachers.

The finding on this dimension concurs with that of Ziv, Gorenstein and Moris (1986), who, while using a coarser measure, found that students with a high humour score tend to prefer teachers with strong sense of humour

A similar relationship holds for Factor V: although the factor is not readily defined, high scoring students tended to prefer high-scoring teachers.

Female students scoring high on Personal Use of Humour also preferred teachers scoring high on Factors II and IV (Coping Humour and Social Use of Humour). In a classroom environment the latter is readily understandable: a teacher who uses or enjoys humour within a social setting such as a classroom would provide a source of personal enjoyment to a student seeking personal humour. The manifestations of a teacher using humour for coping in a classroom may well be evident to students (although it could also be very well-hidden, and utilised as a relief outside of the classroom). Such a situation would also appeal to a student seeking humour for personal enjoyment.

A relationship of similar strength exists between female student scores on Factors IV and V (Social Use and External Humour) and teacher scores on Factor III (Personal Enjoyment).

The first relationship is reasonably clear: a student who uses appropriate humour in a classroom situation can provide a source of personal enjoyment to the teacher, hence strengthening the relationship. Several teachers commented on how certain students were always able to liven up the lesson through humour, although they reflected that this was an ability that had to be harnessed by the teacher to avoid potential disruption. The second relationship is less clear due to the imprecise nature of Factor V.

For male students, very little correlation is evident at all. The only significant correlations are weak and are between student scores on Factor V and Teacher Scores on Factors II and IV (Coping and Social Use of Humour). Again the nature of Factor V renders this difficult to analyse.

It may be that males do not incorporate any aspects of humour when identifying preferred teachers, or that other factors overwhelm the effect of sense of humour. There was no evidence for males even to prefer teachers with similar characteristics to themselves. One possible explanation for this difference between male and female correlations is that school-age females tend to consider characteristics of people whereas males tend to consider objects, possessions and interests external to the person. Thus females may well consider aspects of personality when identifying preferred teachers, whereas males may weight their preference on sports teams, cars, possessions and other non-character based attributes of the teacher.

#### 4.3.5.5 *Humour production: differences by student and teacher gender*

Factor I (Production of Humour) for female students correlated negatively with Production of

Humour for male preferred teacher. This may indicate that female students who have a propensity for humour production prefer that male teachers do not exhibit the same propensity, possibly seeing it as competition, transgression or as potentially taking over their role.

There was no similar significant relationship with female preferred teachers, which could be for a range of reasons. As there is no longer an issue of gender, the fact that a female teacher exhibits humour may simply be seen as unimportant by female students: the other characteristics of a female teacher may overshadow any humour component. Alternatively, the nature of humour produced by male teachers may be seen as undesirable by female students with high humour production. The expert group identified several possible reasons.

- male teachers may tend to produce a different (and less enjoyable) type of humour towards female students,
- male teacher humour may tend to be aimed at a male student audience (or exclude female students),
- male teacher humour may be seen as actively excluding/marginalising female students,
- female student social groupings based on humour may be threatened by male teacher use of humour, as outlined in Martineau (1972) (see Appendix C),
- female students may perceive the same humour produced by male teachers differently than do male students. This may be a result of male teacher humour being of a different level of sophistication than female teacher humour, or male teachers using humour in situations where females might not. Alternatively, the use of some types of humour such as sarcasm, may be received differently by males and females. One



example comment from a female student (age 17 years) may illustrate this: "...while we may have a bit of a laugh at the time with [male teacher], I don't really appreciate it because it is often crude or at another person's expense."

The divergence between genders in terms of moral development (Gilligan, 1982) and the corresponding differences in humour production identified by Socha and Kelly (1994) may also provide an explanation. If "male humour" focuses on disparagement, and young women's moral judgements are based on principles of compassion and care, female students are likely to find male teacher humour production unenjoyable. However one would expect this lack of enjoyment to apply across all female students, and not correlated with student sense of humour. A possible explanation lies with sense of humour and moral maturity both being related to underlying developmental characteristics.

A weak positive correlation was found between Humour Production for female students and Coping Humour for female preferred teachers. An explanation for this correlation could be that teachers using humour in a coping role within a class may do so in such a way as to assist the class to cope with change and stressors, and students who enjoy humour production may contribute to this process. If the teacher was using coping humour in this way (extending her coping humour to benefit the class), a similar relationship would be expected with student Personal Use of Humour and student Social Use of Humour. This is indeed the case: both these correlations are significant at  $p < .01$ . It appears that this is not the case with male teachers, suggesting they may be less likely to be using coping humour in a class-wide mode.

This study advances on the work of Hudspith (1994) by providing a more detailed understanding of the mechanisms that underly the function and consequences of humour in

classrooms settings. Although Hudspith found the teacher (rather than the student) to be the initiator of humour, this does not correspond to a “comedian” role; it includes the harnessing of humorous situations to class advantage. The study also confirms and explains Hudspith’s finding that classrooms with a positive affective tone were those in which teachers directed humour at the whole class rather than individuals, and included incidents in their own life (including failings) amongst the objects of humour. This follows from the preceding discussion of the role of production and coping humour in from a teacher perspective.

#### 4.3.5.6 *Coping Humour: differences by student and teacher gender*

For female students, a negative correlation exists between student Coping Humour score and teacher Production Humour score for male preferred teachers, but not with female preferred teachers. There may be several reasons for this, including some of the reasons given in the Production Humour section. Possibly female students identify preferred teachers by shared characteristics, and for female teachers the gender-based characteristics overshadow any humour-related characteristics. Alternatively, the humour used by male teachers who score highly on Humour Production may be unhelpful to those females who score highly on Coping Humour (whereas the female teacher humour may be perceived as neutral). A female student who sees humour as a tool for personal coping may find the use of humour generated by male teachers to be distracting, or may be upset to see the tool she uses for coping being hauled out in the open in the classroom and used by someone of the opposite gender in a way that conflicts with her use of humour.

For female students, Coping Humour correlates with preferred teacher Coping Humour for female teachers. The most likely reason is the role of similarity, as evidenced in friendship formation. This relationship is not observed between female students and male preferred

teachers, nor between male students and male or female teachers. This may be purely a lack of similarity or may reflect a stronger tendency for female teachers to demonstrate their own coping strategies within a classroom setting, or to do so in a way that female students relate to.

A final significant correlation exists between female students' Coping Humour and the Social use of humour by female teachers (but not males). While risking an over-generalisation, this is consistent with the use of humour in a social setting being different between male and female teachers, and for female students being more sensitive to the way humour is used. It may be that male students are indifferent to the specific type of humour used by teachers in the social setting of a classroom, or that females are specifically attracted to the typical ways in which female teachers make use of humour.

Investigating the use of coping humour in school-age adolescents, Führ (2002) found significant differences between genders. Girls exhibited an increase with age in their use of humour to "get cheered up", whereas boys showed a decline. If so, there are implications for high schools, which typically have a higher proportion of male teachers than primary schools. At a time when girls are increasingly using coping humour for this purpose, they are increasingly likely to be taught by male teachers who need therefore to be aware of the likely effects of (in particular) production, coping and social use of humour.

#### *4.3.5.7 Personal use of Humour: differences by student and teacher gender*

For female students, Personal Use of humour correlated with teacher score on Coping, Personal Use and Social Use for female preferred teachers, but not with male teachers. Perhaps surprisingly, it did not show a significant correlation with teacher Production of Humour.

There are some obvious possible reasons for the observed correlations. Students with a high Personal Use score would see the use of humour in a social mode in a classroom, or as a coping strategy by their teacher, as a source of enjoyment and pleasure. A teacher who clearly valued humour for their own personal use would provide a basis for similarity-based preference by students.

The lack of correlation with Humour Production in teachers suggests that while students value humour, they do not see the role of teacher as a producer in the classroom. This is borne out by interview: the teaching role is not to be a stand-up comic but to encourage social and personally-derived humour amongst students as part of a complex social environment. For male students, Personal Use of Humour did not correlate with any of the preferred teacher dimensions of humour.

#### 4.3.5.8 *Social use of Humour: differences by student and teacher gender*

For female students, Social Use of Humour displayed significant negative correlation with Production of Humour by male preferred teachers, but not with female teachers. This suggests that perhaps the approaches to humour production by male teachers tend not to be liked by female students, while the humour produced by female teachers is accepted. This could be either due to the nature of humour used by some male teachers, or the different ways in which it is interpreted by male and female students.

In the words of one female student (age 16 years) with a high score on Production, Personal and Social Use of Humour dimensions,

[some] male teachers use humour unprofessionally ... female teachers who use humour tend to use family level humour, which is harmless, fun, not designed to hurt or offend anyone. But I really respected [male teacher] as a teacher because he used humour a lot, but it was always in a very professional manner, and always appropriate.

As has been seen with the Production of Humour dimension, the overt production of humour is not seen as a teacher's role, but is accepted from female teachers (or at least not seen as negative). Alternatively, the social humour anticipated by females might be thwarted by a male teacher who has a tendency to produce humour. If, for example female students with high Social Humour scores tend to meet their needs by use of humour amongst themselves, a male teacher with high levels of Humour Production might be seen as an intruder to their group.

For female students, Social Use of Humour correlated positively with Coping Humour, Personal Use of Humour, Social Use of Humour and External Humour for female preferred teachers. The correlation between student and teacher Social Use scores is another case of similarity as a basis for attraction. The Personal Use relationship may possibly be an attraction resulting from similarity if the female teachers exhibit some observable behaviour resulting from personal use of humour (as has been suggested previously, they may reflect on their use of humour to their class, or encourage others to use humour in a personal way). It is not clear if the female teachers do this differently towards female students than male

students, or if female students are simply able to detect it while male students do not (or do not consider it important).

#### 4.3.5.9 *External nature of Humour: differences by student and teacher gender*

Again there were no significant correlations between this factor for male students with any factor for either gender of preferred teacher, but correlations were evident for female students.

The ill-defined nature of the External Humour factor renders it difficult to analyse the relationships it exhibits. However, it does appear to have more importance than the other factors in the selection by female students of male preferred teachers.

For female students with female preferred teachers, the External Humour factor in preferred teacher correlated with Personal Humour and External Humour dimensions. For male preferred teachers the correlations were with Coping Humour, Personal Use, Social Use and External Humour.

The External Humour factor in female students correlated highly with Personal Use of Humour in both male and female preferred teachers. If, as speculated, it relates to the extent to which an individual sees humour as external to themselves, a possible explanation may lie in the previous results which indicate that female students did not value the production of humour especially in male teachers. A teacher who did not attempt to produce humour but relied on (and conveyed a respect for) external and “third-party” humour, or who conveyed an impression that humour from outside the immediate environment, would have appeal to a student who felt the same. If such a teacher conveyed their regard for external humour to their class via their strong personal enjoyment of humour (for example by referring

frequently in class to how much they enjoyed a specific film or television show) they would be supporting the view that humour is external to themselves and their students. At the same time they would be avoiding the production of humour themselves. Both these behaviours would increase the appeal of their Sense of Humour to a female student with a high External Humour score. If this is the case, we would expect the teacher to have a high score on External Humour, and this is indeed reflected in the correlations for both male and female preferred teachers (female  $r = .31, p < .01$ , male  $r = .23, p < .05$ ). In male teachers it is accompanied by a correlation with Social Use of Humour ( $r = .26, p < .05$ ), which would be expected if the teacher uses his personal view of humour as part of classroom interaction.

The lack of correlation for male students perhaps is an indication that male students are either indifferent to or unaware of this trait in their teachers.

#### 4.3.6 Teacher vs non-preferred teacher

Having established these correlations, there is a need to identify whether these are related to the fact that the teacher in each case was a preferred teacher, or whether these correlations substantially apply to any teachers. Again, an ideal model would use a second category of teachers with whom students did not get on well, but clearly there are ethical (and political) reasons why this was not possible in a design of this type. A weaker alternative is to use either the entire teacher cohort or the non-chosen teachers for each student as a comparison group, so that any correlations for preferred teachers can be compared with a wider teacher sample. This approach yields no useful correlations.

Consideration was given at the design stage to measuring or recording other characteristics of teacher and student which may influence the teacher-student relationship, and which could

have been used as control variables. However, many of these variables are either

(a) personality or behavioural variables which are impractical to measure in a bulk school setting, and which would introduce a level of complexity that would not be justified in the final classroom setting towards which this research is aimed or

(b) variables which would not be accepted in a study carried out within a public organisation.

As an example of (a), the propensity of a teacher to use non-verbal instruction and the degree of preference of a student for this form of instruction may influence the extent to which a student gets on with a student, but measuring these variables is not routinely carried out in schools (and is unlikely to be).

As an example of (b), degree of competence of teacher in controlling a class is known to be a characteristic of preferred teachers, but attempts to measure this would identify less competent teachers which has considerable political and personal implications.



## 5.0 SUMMARY AND IMPLICATIONS

This study has identified a number of findings of relevance to education. These are outlined in relation to the original Research Questions.

### 5.1 Findings

#### 5.1.1 Value of MSHSYA to describe Sense of Humour Profile

The MSHSYA instrument derived from Thorson and Powell's MSHS instrument can be used with school students to gather a Sense of Humour profile. The MSHSYA has factor stability and has been shown to be both reliable and valid for this purpose, generating readily interpretable information. The administration of the MSHSYA is straightforward, as it is a self-administered instrument which can be completed in approximately 15 minutes. Reading and comprehension requirements are readily met by the vast majority of students from upper primary school upwards. Where reading assistance is required, the relative brevity of the MSHYA and the lack of writing required by the student mean that the instrument is not a burden on time.

The MSHSYA can also be used with adults as a way of identifying and representing the same dimensions of SOH, in a profile form.

### 5.1.2 Dimensions of sense of Humour

The Sense of Humour construct, as measured by MSHSYA, has five factors;

1. Production of Humour,
2. use of Coping Humour,
3. Personal Use of Humour,
4. Social Use of Humour, and
5. the extent to which humour is seen as External to oneself.

The SOH profile can be represented in a form that is readily interpretable by teachers, using a 5-axis diagram.

### 5.1.3 Differences between the SOH profile of mainstream and “at-risk” students .

There may be differences between at-risk and mainstream students in relation to Sense of Humour. Statistical differences were observed on some items on the MSHSYA, but these did not translate to differences at the profile level.

Although differences were observed, the tendency of some “at-risk” students to give extreme responses to Likert scale items means that it is not valid to compare their responses with those of mainstream students who tend to make use of the full range of responses available.

It may be possible to use the MSHYSA to track changes in students who only give extreme responses, but care needs to be taken to ensure that their responses are not confused with valid extreme responses generated by students who have considered the full range of responses and chosen an extreme value. This will almost certainly require direct conversation

and observation with individual students who are likely to be in that category, in order to identify the reasons for extreme responses, and to isolate any cases where these responses do not represent considered views.

#### 5.1.4 Relationship between Sense of humour profiles of students and preferred teachers

Sense of Humour is one characteristic associated with the selection of preferred teachers. However Sense of Humor does not simply operate at a similarity level as might be expected from classical theory of friendship selection. Teachers often wish to identify in advance any students with whom they are likely to have a serious conflict of personality. Approaches based on simple similarity in corresponding dimensions of Sense of Humour will not prove useful for this purpose.

#### 5.1.5 Gender differences in the role of SOH in student-preferred teacher relationships

In male students, teacher sense of humour has minimal effect on selection of preferred teacher, but in female students several dimensions of Sense of Humour have been found to correlate with preferred teacher Sense of Humour. In particular the nature of the relationship between Sense of Humour dimensions suggests that female students with high scores on sense of humour dimensions do not prefer male teachers who produce humour, or who use it in a coping or social sense. This finding is of particular importance to male teachers who are dealing with female students and who are attempting to use humour to establish a classroom relationship. Unless considered carefully the process can be counter-productive, especially for those students who appear to enjoy and use humour.

## 5.2 Complexity of interaction of Sense of Humour

This study has identified that the relationships between student and teacher are not based on simple similarity between student SOH and preferred teacher SOH, but on a complex interaction of 5 x 5 dimensions and 4 gender pairings. It is not hard to see why past attempts to analyse the role of humour in education have been problematic, in particular when simple measures of humour production or overall sense of humour have been used. In most past research in this area, the assumption has generally been that a level of humour in a classroom exists and its effect is similar for most or all students. This study indicates that such an assumption is not necessarily (and, indeed, not likely) to be the case; a specific action by a teacher may be seen as positive by one subgroup of a class of students, and neutral or negative by another. Complexity is increased in that the same teacher with the same class may create or support another humour situation where the student response also varies, but this variation is between different subgroups of the class. That is, or any given use of humour, there will be subgroups who find it positive, neutral or negative, but the subgroups are not fixed. An important consequence of the findings of the current study is that the role of humour can (and should be) be considered at a more detailed level, rather than simply at the level of the teacher using or not using humour.

## 5.3 Applications for the findings

One intention of this study was to provide a tool for use by teachers to identify possible humour-related issues that may contribute to managing interaction with students and classroom practice. The MSHSYA has been shown to provide a reliable and valid means to achieve this, and a relatively simple and time-efficient way of profiling the humour

characteristics of students and teachers.

There are several immediate applications for the MSHSYA tool.

### 5.3.1 Identifying potentially important combinations of students and teacher (based on Sense of Humour profiles) in advance

The findings demonstrate that there are relationships between student and preferred teacher SOH profiles. This provides, for a given student SOH profile, the concept of a “most-preferred” teacher profile and, conversely, a SOH profile that is least likely to result in a student-preferred teacher relationship. Conversely, for a given teacher SOH profile there will be corresponding student profiles that will be most and least likely to produce a positive student-teacher relationship.

Once MSHSYA profiles are available for a cohort of students and their teachers, the identification of students who are likely to relate well to a given teacher (in a SOH context) is a relatively straightforward task, based on identified correlations for preferred combinations. However, discussions with teachers indicate that this is likely to be of limited use: the students likely to form a positive relationship tend to self-identify reasonably rapidly, and where self-identification does not happen the outcome is a lost opportunity rather than an overt problem.

On the other hand, teachers saw real value in identifying those students whose SOH profiles are highly inconsistent with a positive student-teacher relationship (in relationship to the teacher’s own SOH profile). By identifying such students early in a student’s school year, teachers felt that they could develop a sensitivity towards them, and modify their practice to accommodate the likely areas where humour-related classroom interaction might be

problematic.

As with any tool of this sort, care must be exercised to avoid inappropriate use of the MSHSYA. The use of characteristics of learners to inform decision-making is productive, but the over-application of this information to label students in a restrictive way must be avoided. In particular, approaches that use SOH profile to limit opportunities for students are likely to result in categorising and labelling of students, with a consequent tendency towards unproductive over-simplified approaches to curriculum and pedagogy.

Given these provisos there is still value in individual teachers being able to identify a small number of students for whom SOH is unlikely to contribute to a positive student-teacher relationship, so that emerging issues can be identified, monitored and suitable courses of action undertaken if required.

### 5.3.2 Diagnosing possible sources of tension between student and teacher

In cases where humour appears to be a source of friction rather than a beneficial factor in the relationship between a specific teacher and student, the MSHSYA may provide a means of identifying the cause of that friction. By establishing the Sense of Humour profiles of teacher and student, and using the knowledge of relationships between these for preferred teachers, teacher and student may be able to isolate possible reasons for the problem and work towards a solution.

Clearly the SOH profile represents only one of many variables contributing to the quality of teacher-student relationship, and the information given by SH profile would need to be considered in light of all other information available on teacher and student.

### 5.3.3 Improving pedagogy

While the findings of this study do not suggest that there is an “ideal” teacher SOH profile, they do indicate that some teachers may find their SOH profile is not likely to foster positive relationships with specific students. Using the MSHSYA, a teacher may identify that some aspects of their SOH profile are detrimental to relationships with certain students. In this case, they may elect to modify the way they use humour in class or in relation to specific students, or to consciously change the manifestations of their SOH profile so as to better suit specific students. This could be on a long or short-term basis, depending on the nature of the mismatch and the educational goals of the program of instruction. For example, a teacher may find that they can modify the way in which they use humour in interacting with an individual student in a one-to-one situation, in order to foster a better relationship. Alternatively, they may elect to cease attempts at generating humour in a whole-class setting if most of their students have a SOH profile that suggests this course of action.

At a broader level, the identification of student SOH characteristics might prove useful in a pedagogical sense by providing teachers with a framework within which to consider the range of tools and strategies they might apply to classroom practice. By identifying the specific ways in which students are likely to experience and react to humour, teachers can ensure that their classroom practice includes a range of opportunities to cater for the various different profiles. For example, teachers might intentionally incorporate a balanced set of opportunities for students to produce humour, to experience it personally in an entertainment sense, to utilise humour within a class social context, and to apply it as a coping strategy to

classroom conflict or problems. If this approach is taken, the classroom learning environment is less dependent on the SOH profile of the teacher, and thus is more likely to accommodate the full range of student dispositions towards humour rather than just those inherent in the teacher's SOH profile. This intentional widening of the ways in which humour is used increases the likelihood of engaging the full range of students.

#### 5.3.4 Humour profiles as self-knowledge

In some cases, students or teachers may find it valuable to be aware of their SOH profile, in order to better understand themselves and possibly to inform decisions they may make about changing aspects of their use of humour. It must be stated clearly at the outset that any decision to modify personal behaviour is a serious one, and no suggestion is made that individuals should aim to have an “ideal” or indeed any specific SOH profile. However, there can be value in individuals knowing their SOH profile, thus identifying their strengths and weaknesses and helping them to understand how they might be similar or different from other people.

It is important, especially in a classroom setting, to ensure that such information is not interpreted as meaning one child is better or worse than another; the SOH profile simply indicates preferences or tendencies, which are not inherently good or bad.

In education curricula that encourage reflective thinking and metacognition, understanding aspects of one's own thinking is seen as a valuable skill. The understanding of one's SOH profile can be seen as part of this skill.

Interestingly, in the early stages in the Pilot Study several teachers expressed concern that some students would “cheat” when completing the MSHSYA questionnaire, attempting to



get a high score in the belief that this was in some way “better”. After discussion of the nature of a SOH profile with students, conveying the idea that knowing one’s actual profile was of value, and having students view sample profiles, a change in student attitude was evident. Attitude towards the MSHSYA instrument had moved from seeing it as a “test” on which one was supposed to succeed, to being a tool for finding out about oneself. Once this change of perception had occurred, students expressed a personal interest in having an accurate sense of humour profile.

As students realised that their SOH profile gave them information that may help them rationalise their personal views and responses to humour, they saw the MSHSYA as something of personal value and were keen to see their own characteristics. The information conveyed in the SOH profiles appeared to be useful and relevant to students as another aspect of them understanding themselves.

### 5.3.5 Sense of Humour profile as a tool for small group formation

On occasions, schools find it useful to structure small groups of students within a classroom on a short-term basis based on either similarities or variation in some characteristic.

Typically the characteristic chosen might be gender, preferred learning style, general academic ability or past achievement. The reasons for the grouping vary according to the pedagogical goals to be achieved. In some cases groups based on similarity might ease classroom administration, while intentionally mixed groups might allow a wider range of views and approaches to be applied to a classroom task. It may be of use to consider SOH profile, or components of SOH profile, as characteristics to guide group construction. While this study has identified the role of SOH profile in teacher-student relationships, there are

likely to be relationships between student SOH profiles that are conducive to specific sorts of interaction. On this basis, using SOH profile to assist in the formation of small groups might prove worthwhile. The determining factor in doing so would be the pedagogical rationale for the grouping: it is not suggested that there is any inherent merit in forming groups of students of like SOH profile or groups where a deliberate range of SOH profiles are included.

## 5.4 Conclusion

In summary, the MSHSYA instrument and the relationships identified in this study can contribute to the understanding of classroom interaction. With thoughtful application they can and provide useful diagnostic and planning information, and enhance the quality of educational experience for students.

The instrument and associated SOH profile development has been found to be simple, time-efficient and easy to interpret. As a self-administered tool the MSHSYA lends itself strongly to classroom use, being minimally intrusive and providing useful information to both student and teacher.

As well as assisting in the planning and management of classroom practice, the SOH profile provides students and teachers with information about themselves, which contributes to improving self-knowledge.

## 6.0 LIMITATIONS AND FUTURE STUDY

This study suggests some further investigation, some of which may overcome its limitations and some of which may be to probe further into the area of humour in classroom relationships.

### 6.1 Limitations

#### 6.1.1 Threats to internal and external validity

The categorisation of threats to validity in experimental designs provided by Campbell and Stanley (1963, pp.5-6) give an initial framework for examining validity in this correlational study.

##### 6.1.1.1 *Effects of history and maturation on validity*

The effects of history (external events) and maturation (changes in the respondents) in this study are largely limited to the possibility that the self-report and peer report for an individual are not based on the same point in time. While the self and peer-reports for any subject were collected simultaneously, it is not inconceivable that some students may have formed a view on a peer at some time in the past, and would report on that view. This possibility is minimised by asking students to only report on peers whom they know well. However it must be admitted that, for example, a student who has achieved fame or infamy in the past may be treated as well-known by others who no longer really know that student well. A more extreme example might illustrate this better; if adults of suitable age were asked about their knowledge of the child film star Shirley Temple, some would describe her

as a young, curly haired singer, a description that only applied for a relatively short period of time and is no longer current.

#### *6.1.1.2 Testing and interaction effect on validity*

As this study was non-experimental in the sense that no treatment effect was being sought, the major threat to be considered here is an interaction or reactive effect of testing. The presence of a questionnaire or test introduces an effect in itself, which can include alteration of emotional state, a change of focus, or a desire to portray a particular view. Students and staff were aware that the study involved Sense of Humour and thus some may actively attempt to gain a desirable rating in some fashion. This was countered by ensuring that subjects knew that the data would be de-identified to the investigators, and that there was no advantage to be gained by performing well or in any other fashion. Additionally there was no direct feedback of sum scores to respondents, and the concept of profile (relative strengths rather than absolute scores) was stressed, thus ensuring this tendency was minimised. The observed results showed a spread of responses across the Likert scales, which would not be expected if the majority of respondents sought an extreme or desirable score.

#### *6.1.1.3 Effect of instrumentation on validity*

The instrument used was shown to be stable and produced objectively recordable results (in that there was no observer judgement required to score the instrument). Where re-calibration was required, all results were adjusted accordingly to ensure comparability. Variations between settings were minimised within each school group by ensuring a common location, date and time of day for all respondents.

#### 6.1.1.4 *Effect of regression, bias and experimental mortality on validity.*

Respondents were selected in bulk based on school administrative structures (grades or year groups), with no attempt to select respondents of a particular profile. As the study was non-experimental, regression between observations was not an issue. The main source of bias was in the voluntary nature of participation, and the ability of participants to withdraw at any time. In the case of students, those with erratic school attendance, low literacy or low levels of family support were less likely to complete the permission process in the first place, and thus these groups were likely to be under-represented. Those who became concerned about what the instrument might reveal about them would be more likely to withdraw during the administration. The situation was more serious with teachers: given the smaller numbers, the voluntary abstention or withdrawal of certain types of teacher means that the study may have been based on a non-representative group; perhaps the more confident or outgoing teachers for example.

The voluntary participation had two consequences:

- firstly, the nature of the participants may have been unrepresentative of the wider school environment, as certain types of student or staff may have chosen to volunteer or abstain.
- secondly, the ability to investigate patterns in student and staff data is compromised when that data is incomplete.

Thus the ethical and practical constraints in this study did not permit a complete data set to be collected, which in turn limited the analysis.

The measure of perceived relationship between student and teacher was taken as a simple single-dimensioned variable based on student report. This variable can be broken down into

a range of personality and behavioural components, each of which has potential for student reporting on a structured basis. Although the current study was unable to apply more detailed instruments due to their intrusion on classroom operations, it is conceivable that their use could allow identification of some of the components of this interaction that appear to be related to similarities in sense of humour profiles.

Alternatively, instead of using the perceived nature of the student-teacher relationship, it would be profitable to use observational techniques to directly identify behaviour between student and teacher, or possibly use an instrument that gathers student reports on aspects of classroom practice in a log fashion.

The approaches to measuring student-teacher relationship mentioned above were beyond the scope of this study and pose unique methodological challenges, especially if used in a naturalistic setting. In particular, their intrusion on classroom operation limits the possibility of them being accepted in a classroom setting.

The two pathways to enhancing the model (a more complete data set and the adoption of multidimensional measures of the teacher-student relationship) afford scope for further investigation.

#### *6.1.1.5 State/trait issues and triangulation.*

At a stage part-way through the study, an issue emerged that had potential implications. Care had been taken in the development of the instrument to measure trait variables rather than state variables. However, several teachers involved in the study commented that they were unsure how they should describe themselves when completing the MSHSYA instrument, as they adopted different “personalities” with some class groups.

This possibility has not been accommodated in previous research (with non-teachers), as the conventional model assumes that an individual has a single set of trait values (which are by definition reasonably constant) and at any given time a set of state values. In the case of a teacher, however, the trait values displayed in one class may be stable over time (the entire year duration of a course in many cases), yet a different set of values may be similarly stable when in another class. Thus the teacher who is a jolly and outgoing person for her Year 8 English class may be a more restrained and less outgoing person for her Year 7 Maths class. Each of these “classroom styles” is characterised by a set of traits, and within these there may be daily variations in state. As far as could be determined through interview, the class was the level of social unit at which these trait changes occurred (that is, a teacher trait set would apply to an entire class and there were not separate trait sets for parts of a class)

This issue means that care must be taken in applying a given trait set (as might be measured by MSHS) for a teacher. It is essential that the trait set used is the one that the teacher sees as applying to the group of students under consideration. In effect, each teacher needs to be treated as if they are separate people for each of the classes they teach, with corresponding Sense of Humour profiles.

When considering a teacher who may have perhaps three or four “classroom styles”, each used with a specific group of students, ideally the corresponding sense of humour profile should be used when establishing correlation between student and staff profiles, assuming that the teachers are able to define each style well enough to complete a separate Sense of Humour instrument for each style. In the current study, each teacher was asked to complete a single Sense of Humour instrument, and none indicated that this was problematic.

The possibility of multiple distinct classroom styles also places limits on using peer reports

on teachers by other teaching staff, as what they see might well be the teacher's actual personality which might bear little resemblance to any of the teacher's "classroom styles". It would seem that the teaching profession is an occupation in which an employee adopts various different styles for different groups of people. Other similar occupations also exist: obvious examples include acting and other occupations that involve public performance.

### 6.1.2 Limitations of design

As indicated in the literature review, there are many factors that contribute to a teacher being identified by a student as a "preferred teacher", and these account for larger amounts of variance in the data than sense of humour. Accordingly it was expected that the sense of humour components would only account for a relatively small amount of variance. An obvious strategy is to include these other known variables in the study hence narrowing down the variance attributable to sense of humour. However, these variables are neither readily nor ethically measurable in an operating school environment. It is highly unlikely, for example, that an education system or school would agree to involvement in a process that involved rating teachers on characteristics such as subject knowledge, classroom discipline or physical attractiveness.

The study also assumes that each student can validly identify preferred teacher(s) from the teachers available in his or her school. Unlike the more open "characteristics of a preferred teacher" studies, where the student could look back over their school history, this study required students to identify a teacher who could be identified and profiled. It was clear that in the primary and high school environments, this assumption was not necessarily valid. Many students expressed the view that they had nothing to choose from: this was not to



imply that their teachers lacked humour, but that for many students there were only a small number of teachers with whom they had any contact, so instead of choosing from 40 teachers they were choosing from four. The consequences of this limitation were evident in the data, where few trends were discernible in the primary and high school responses.

Given these constraints, there will be an acceptance that there are limits on the ability of the research design to identify relationships.

### 6.1.3 Alternative explanations for findings

The attempt to establish links between student and preferred teacher Sense of Humour profile is based upon the assumption that both teacher and student have Sense of Humour profiles that are relatively stable over time, and that these in some way contribute to the way the student perceives the teacher.

However, it is well accepted that one purpose of education is change, and thus it may well be that students select a preferred teacher for other reasons, and then their Sense of Humour profile changes, in response to the Sense of Humour profile of the preferred teacher. This could be an alignment or the production of some sort of complementary profile.

This process could lead to the same result as students selecting preferred teachers based partially on Sense of Humour profile, but the two models lead to quite different consequences for classroom practice.

One method of identifying if student Sense of Humour changes significantly as a result of exposure to teacher Sense of Humour is to track a cohort over time with different teachers. However, this would require repeated testing and possible associated problems with

instrument over-use, and would also be subject to maturation and history effects especially in younger students. If an experimental model was possible, teachers with radically different Sense of Humour profiles could be used with a class over say 3-month periods with associated administration of the MSHSYA instrument. However, ethical and practical considerations render this impossible, so a less elegant approach is needed.

Another alternative way of identifying changes in sense of humour profile over time is to identify those students whose results are present in successive administrations, and determine if there have been significant changes (in this case, over periods up to 2 years). While changes cannot be attributed solely to teacher influences, an absence of change supports the view that the student Sense of Humour profile is relatively unaffected by teacher influence.

As a post-hoc process, the data from studies 1 and 2 were scanned to locate any students who had been involved in both studies. This process identified 72 students, and their responses to the identical MSHSYA instrument at intervals approximately one year apart were analysed as a form of test-retest check on the reliability of the MSHSYA. Correlations between individual items were calculated and the MSHSYA sum scores were calculated. With the exception of Items 2 and 14 the correlations were .60 and above, with an overall reliability on the MSHSYA Sum Score of .84. Items 2 and 14 showed correlations of only .3 between the two administrations. There appeared to be no discernible pattern in the variation in scores on these two items between administrations, and it may be that they reflect an actual change in the individuals over this period of time rather than a reliability problem with the item.

Only 11 teachers gave responses in successive administrations, so correlational analysis is inappropriate, but in only one case did a score vary by more than one scale point on any item between the two administrations. This was on Item 14 ("I like a good joke")

The preceding analyses and discussion, while based on the scores of a particular group of students, suggests that the test-retest reliability of the MSHSYA instrument is acceptable as well as providing some evidence that teacher influence is unlikely to appreciably change the Sense of Humour profile of students.

As far as can be determined the test-retest reliability of MSHS-based instruments has not previously been undertaken. This section of the present study, while relatively small in scale, indicates strongly that the MSHS instrument has test-retest reliability over a one-year span.

## 6.2 Suggestions for further study

The present study has identified some relationships involving Sense of Humour that impact on student choice of preferred teacher and hence the teacher characteristics preferred by individual students.

### 6.2.1 Removal of other variables.

To investigate the relationships more fully, attempts need to be made to remove other known variables that influence teacher preference. As stated previously, these include variables that are problematic for education systems, in particular those which relate to the broad area of quantifying teacher competence. If a process can be developed for incorporating this data without raising ethical or industrial concerns, a deeper investigation is feasible.

### 6.2.2 Extreme response set

The use of self-report in the present study was strongly influenced by the need to produce a usable product for teachers. However, the observed tendency for some students to choose

only extreme values on a 5-point scale means that the self-report in their case is a combination of the humour data plus an “extreme response” error factor. This extreme response set was confined to a particular group (those students in a custodial care institution or alternative school program). Chambers and Johnston (2002) found that young children may tend to use extreme responses when reporting emotional (as opposed to physical) states; a similar phenomenon may be operating here. Approaches to dealing with the differences in individual response type have included anchoring vignettes, self-anchoring scales, and attempts to measure and compensate for individual style (for example, King, Murray, Salomon & Tandon, 2004). However these approaches assume individuals have a fixed and predictable tendency for response style, and it is not easy to see how correction can be made for individuals whose responses are always extreme and may change to the other extreme under pressure.

### 6.2.3 Observational studies

Observational or log-based studies may assist in interpreting the underlying causes of the observed relationships, although as other factors dominate sense of humour in the selection of preferred teachers it may not be easy to elicit its role from individuals.

The findings from Study 2 suggest that observation of the specific nature of humour used by male teachers requires investigation, in order to clarify the reasons for its negative correlation with dimensions of Sense of Humour in female students. In particular, a categorisation of the type of humour would allow this to be investigated further.

#### 6.2.4 The fifth factor

The extraction of five factors from the MSHSYA data has been a cause for concern throughout the study. The criteria for retaining the factor were met, but only just; additionally, the factor has proven difficult to interpret in the subsequent analysis. It has shown to correlate with other aspects of Sense of Humour, but its description as “the extent to which the individual sees humour as external to themselves” was felt to be a difficult concept and inherently not as satisfying as the other four factors. Further investigation of this factor through further investigation of students who score highly on it appears to be worthwhile.

#### 6.2.5 Multiple teacher styles.

The observation that many teachers saw themselves as adopting different styles in different classes is of some importance. While in this case the issue did not arise as teachers generally self-reported based on the classes they taught that involved participating students, it would be worth investigating how well student and teacher reports of teacher personality agreed across classes where the teacher adopted a different style for each class. A method for identifying the Sense of Humour profile for each style would require some consideration, as teachers appeared to find it difficult to adopt each particular style out of the classroom environment.

It may be possible that other professions such as those in sales and marketing may also involve multiple styles: this would also be worth investigating.

### 6.2.6 Gender interaction and variability in peer ratings

After this study was completed and the main findings were discussed with other educators and researchers, an issue was raised regarding the refinement of the peer rating process. The peer rating process used in the study was based on the assumption that for any given student, all peers who felt capable of providing a rating on the student would produce equally (or sufficiently) valid data. This is deserving of further investigation, particularly since the study identified a significant gender interaction (at teacher-student level) related to sense of humour. It is possible that in the peer rating process, the gender of rater and the gender of the student being rated may interact; for example, males rating females may do so differently to females rating females. Clearly this impacts on the peer ratings, so an understanding of the interaction between gender of rater and ratee would be useful in furthering this research.

The investigation of this interaction issue would require a peer rating process with a large number of ratings on each student, and would need to address the likelihood of friendship groups being gender-specific in some age ranges: ensuring a balance of gender in the raters for each student would be a challenge for any such study.

### 6.2.7 Adapting the research model to younger children

In this study, the children involved were in a situation of knowing a range of teachers well, as the instrument was administered at the end of the school year, and to students who were in a position to know most of their teachers. However in the junior years of primary school, students may only engage with two or three teachers. In this situation proximity is likely to

contribute to selection of preferred teacher (or, alternatively, students may select a high-profile teacher otherwise unknown to them, with no input from other variables). In these situations the present model would be unworkable. Possible approaches might involve manipulating the number of teachers with whom each student comes into contact (for example by using a rostered system of 10 teachers) or by presenting students with an artificial environment using teachers portrayed on pre-recorded video. These approaches are however highly intrusive and destroy the naturalistic setting (as well as being unlikely to be accepted by a school).

#### 6.2.8 Teacher use of the MSHSYA instrument and findings

The initial purpose of this study was to provide knowledge to support teachers in their professional practice. The most obvious next step is to see how teachers can use the information that MSHSYA provides about their students and themselves, and these findings.

This suggests an action–research study of

- the strategies which can be implemented in a classroom based on student profiles, and
- the impact of careful application of the knowledge about relationships between teacher and student dimensions.

Further study of specific groups of students is also indicated. These groups might include students with a specific gift or talent, students with disabilities that limit or alter their modes of communication (such as hearing impairment), students who have English as a second language, and those deemed to be at risk of leaving the school system. Inter-cultural work would also be of value.







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8.0 APPENDICES

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**APPENDIX A. DERIVING DIMENSION SCORES FROM THE 24-ITEM INSTRUMENT**

The administration of the 24-item MSHSYA instrument gives a set of information about a student which can be summarised in several ways. A simple total score gives some measure of Sense of Humour, and subscore totals on relevant items allow scores similar to the MSHS score to be obtained.

However, in doing so one necessarily loses information on the underlying components or dimensions of Sense of Humour. For example, two subjects may obtain the same total score but one may do so by scoring highly on using humour for adapting/coping and low on the other dimensions, while the second may score highly on humour production and low on other dimensions. It would be useful if the separate dimension information could be retained in any summary of scores.

One method of doing so involves using the factor analysis underlying the MSHSYA instrument to assign weighted contributions for underlying factors to each item in the MSHS. As the factor loading matrix may alter with increased sample size, and in order to give a general solution, symbolic representation has been used in the following discussion. For those uncomfortable with the mathematics, a spreadsheet model is available to provide a rapid means of constructing profiles.

In a typical factor analysis, we have  $m$  Scale Items (in this case, the 24 items in the MSHSYA instrument), which we will call  $SI_1$  to  $SI_m$ . Factor analysis yields  $n$  factors (in this study, 5) which we can label as  $F_1$  to  $F_n$ . Each student has a score for each of the  $m$  Scale Items (in this case, a value from 0 to 4 based on the Likert scale response to each question), which we can call  $S_1$  to  $S_m$ . Table 28 shows a matrix as might be obtained from a factor

analysis.

Table 28. Matrix of loadings of each Scale Item on several factors

Scale Item	Factors					Student's score
	F <sub>1</sub>	F <sub>2</sub>	.....	F <sub>n-1</sub>	F <sub>n</sub>	
SI <sub>1</sub>	L <sub>11</sub>	L <sub>1 2</sub>	.....	L <sub>1 n-1</sub>	L <sub>1 n</sub>	S <sub>1</sub>
SI <sub>2</sub>	L <sub>21</sub>	L <sub>2 2</sub>	.....	L <sub>2 n-1</sub>	L <sub>2 n</sub>	S <sub>2</sub>
.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....
SI <sub>m-1</sub>	L <sub>m-1 1</sub>	L <sub>m-1 2</sub>	.....	L <sub>m-1 n-1</sub>	L <sub>m-1 n</sub>	S <sub>m-1</sub>
SI <sub>m</sub>	L <sub>m 1</sub>	L <sub>m 2</sub>	.....	L <sub>m n-1</sub>	L <sub>m n</sub>	S <sub>m</sub>

Each **Scale Item** SI<sub>i</sub> loads on a series of n **Factors** F<sub>1</sub>..F<sub>n</sub> with **Loadings** L<sub>i 1</sub> ... L<sub>i n</sub> . Some of these loadings may be effectively zero, though for generalisability they are all shown.

When the instrument is administered, an individual student, will score on the items SI<sub>1</sub> ...

$SI_m$ , these scores being  $S_1 \dots S_m$  (in this case,  $m=24$ ). The “contribution” of each of these scores to each of the factors  $F_1..F_n$  is dependent on how heavily each item loads on that factor; for example, a high score on an item that has a very small loading on a factor would not be expected to indicate anything significant about that factor.

The weighting of a scale item to a factor can be taken as being its loading on that factor expressed as a fraction of the total loading on that factor.

That is:

Weighting of Scale Item  $i$  on Factor  $j$  is

$$W_{ij} = L_{ij} / (L_{1j} + L_{2j} + L_{3j} + L_{4j} + \dots L_{mj})$$

So, for example, if Scale Item 3 happened to load on the 5 factors with weightings 0, 7, 4, 1 and 0 respectively, we would calculate its weighting on each of these factors as being 0/12, 7/12, 4/12, 1/12 and 0/12 respectively. These weightings are indicative of how much the Scale Item reflects each factor, and total to 1.

The **Student Score** of  $Si$  can thus be adjusted by the **Weighting of Scale Item** value to give **Contribution of Student Response** to Item  $i$  on Factor  $j$ .

that is,

Contribution of the Student's Response to Scale Item  $i$  to Factor  $j$  = Score on Scale Item  $i$  \*  
the weighting of Scale Item  $i$  on Factor  $j$

or in general

$$C_{ij} = Si * L_{ij} / (L_{1j} + L_{2j} + L_{3j} + L_{4j} + \dots L_{mj})$$

The **Student Score on Factor j** will be simply the sum of these Contribution of Scale Item values for Factor j, (ie, to get the student's overall score on Factor 2, we would just add up the Contribution of the Student's Response to Factor 2 for all the Scale Items)

Student Score on Factor j =  $SS_j$

$$= C_{1j} + C_{2j} + C_{3j} + \dots + C_{mj}$$

m

$$= \sum_{i=1}^m C_{ij}$$

i=1

m

$$= \sum_{i=1}^m S_i * L_{ij} / (L_{1j} + L_{2j} + L_{3j} + L_{4j} + \dots + L_{mj})$$

i=1

These Student Scores on each factor allow us to present, for each student, a profile of the relative significance of each of the factors as indicated by their responses.

This profile can be represented as a polygon on a multi-axis graph, the shape of the polygon representing the high and low factors for this student. This has the potential to be an easily-readable device which summarizes some otherwise unattractive information.



As the mean value (across all students) of Student Scores may vary from factor to factor, it may be necessary to re-normalize these to a common mean and standard deviation.

Depending on purpose, it may be deemed necessary to scale these scores to give a fixed total (to avoid the problem where low-scoring students receive a profile where the relative strengths are masked by overall low values). This will depend on how the profile is to be used: if it is intended for use in comparing sense of humour between students, this scaling will be unnecessary and in fact counterproductive, as it will scale out the differences.

However, to identify the dimensions within an individual, scaling will make interpretation easier from a graphic profile.

For convenience, the process of deriving Student Scores and profiles is most readily done by using a software program available from the author. In this model, using item scores ranging from 0 to 4, a convenient range of Student Scores was found to be obtained by multiplying the final values by 0.25. This gave scores which appeared numerically similar to percentage-based test scores (although mathematically they are not constrained to the range 0-100 and do not necessarily distribute normally around 50). While this conversion has been chosen for convenience based on the current data, it may prove useful to look at some other conversion when other results are considered. A cautionary note must be made that any comparisons of re-scaled results between groups needs to take account of any differences used in scaling processes.

Note: in this model, no account has been taken of the fact that the factors account for different proportions of variance. That is, the first factor to be extracted (Factor I) accounts for more variance in the original scores than Factor II and so on. While this would need to be incorporated in the calculation of any single "Sense of Humour Score" for a student, it is not

required for a profile, where the importance of individual factors is determined by the interpreter or user.

For convenience, the process of deriving Student Scores and profiles is most readily done by using a software program (such as a Microsoft Excel Spreadsheet model).

**APPENDIX B. ROTHBART'S MODEL OF HUMOR**

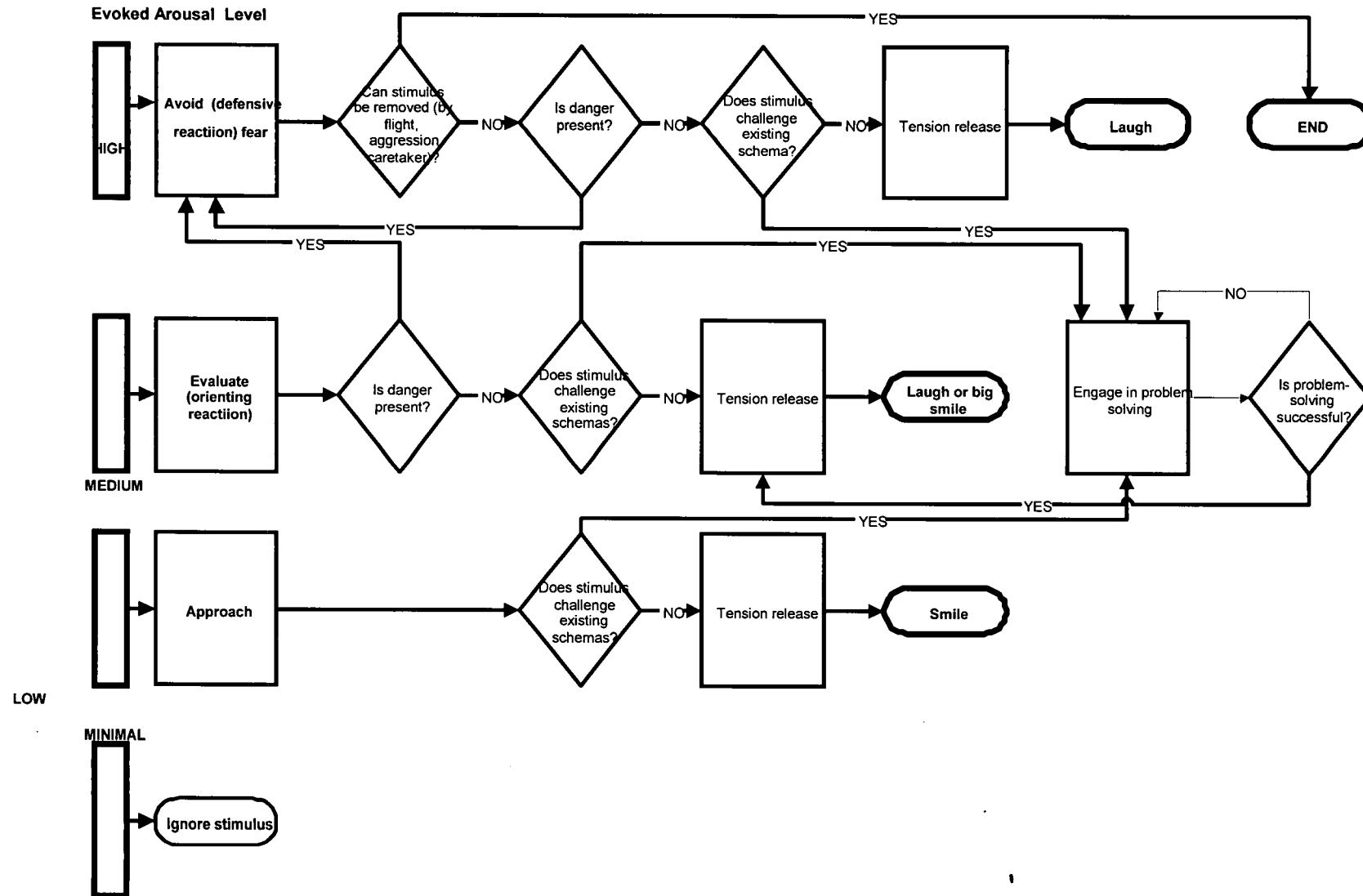


Figure 2. Model of humour in terms of response to stimulus (Rothbart, 1976)

APPENDIX C. GROUPS USED IN DESCRIBING SOCIAL  
FUNCTIONS OF HUMOUR (MARTINEAU, 1972)

Martineau (1972) outlined the range of social functions of humour associated with communication which can be summarized in a matrix according to the dimensions of structure (intragroup, intergroup internal or intergroup interaction), subject of humour, (ingroup or outgroup) and humour judgment (whether the subject is judged to be disparaged or esteemed). These are shown in Table 29.

Table 29. Social Functions of humour in communication<sup>1</sup>.

Structure	Subject of humour			
	Ingroup		Outgroup	
	Judgment		Judgment	
	esteemed	disparaged	esteemed	disparaged
Intragroup	A	B	C	D
Intergroup: internal	E	F	G	H
Intergroup: interaction	I	J	I	J

<sup>1</sup>Martineau, 1972

Group A

Intragroup humour which esteems the characteristics of the ingroup (as judged by the ingroup) acts as positive reinforcement and hence increases the solidarity of the ingroup.

This is frequently evident in sporting teams, and in classroom subgroups where banter, humorous nicknames and positive joking are commonplace. This may or may not include the teacher as part of the ingroup.

### Group B

Intragroup humour which disparages the characteristics of the ingroup (as judged by the ingroup) can act in several ways:

- it can control ingroup behaviour ( e.g., the joking relationship in which in-group teasing is accepted without offense being taken, such as when a latecomer to a meeting is greeted with jokes about their lateness, establishing that the lateness is outside the norm but also that normality is to be resumed immediately.)
- it can solidify the ingroup (e.g. the humour based on individuals admitting their own weaknesses can increase the solidarity of the ingroup)
- it can introduce conflict or foster that which already exists within the ingroup (which is not always detrimental to the ingroup), or cause the social deterioration of the group.

### Group C

Intragroup humour which esteems an outgroup, although uncommon, can provide a suggestion that the ingroup has recognized that in some way it shares a set of interests or values with the outgroup. If this is a shared view, it adds to the social bond within the ingroup: if not, it can result in conflict and dissension. Whether the outgroup is a specific group (e.g. the group of homeless children who live in the local mall) or a general group (e.g., the group of people who hack computer networks) the possible consequences need to be considered (and often are, but without direct reference to

humour).

#### Group D

Intragroup humour which disparages an outgroup may

- increase the solidarity of the ingroup (as in racist jokes, gender-based jokes)
- foster hostility towards the outgroup.
- The need for children to be aware of the consequences of this type of humour is critical to them understanding why some types of humour are often deemed inappropriate.

#### Group E

Intergroup internal humour (that is, humour generated by an outgroup towards the ingroup audience) which esteems the ingroup (as perceived by the ingroup) increases the solidarity of the ingroup (if only from a suspicious invitation to amicable relations between groups)

#### Group F

Intergroup internal humour which disparages the ingroup may

- increase the solidarity of the ingroup (as a defense against invasion of domain, as typified by the strengthening of internal structure in minority groups that are the target of jokes)
- control the behaviour of the ingroup.. (e.g., to bring the target into line with prevailing behaviour patterns)
- foster disintegration of the group (through the obvious abrasive action)

## Group G

Intergroup internal humour which is judged as esteeming the outgroup can

- foster hostility to the outgroup (if the outgroup is seen as bestowing praise on itself)
- solidify the ingroup (by identification with the outgroup as a reference group, or a group with values shared with the ingroup).

## Group H

Intergroup internal humour, which is judged as disparaging the outgroup, may

- increase the solidarity of the ingroup (if the ingroup shares the disapproval which the humour conveys)
- foster hostility towards the outgroup (if a hostile relationship already existed and if the humour simply reinforces the prejudicial perception of the outgroup).

Intergroup interaction humour (that is, humour initiated in an intergroup situation) acts according to how it is perceived by both groups.

## Group I

When it is judged as esteeming one of the groups, it may

- foster consensus and social integration: if the humour esteems the audience group, it is an invitation to an amicable relationship as in C.



- foster disintegration of the relationship: if either group is judged by the other as introducing self-praising humour, and if no strong relationship already exists between the groups, the action may seem to be an egotistical display which strains the relationship between groups.

## Group J

Intergroup interaction humour which is judged as disparaging by one of the groups may

- foster disintegration of the relationship: the abrasive nature of humour in this context is such that if both groups participate in initiating humour which is disparaging of the initiator's audience, intergroup conflict is likely to result. This might be contained if a strong relationship already existed, or if some status arrangement allowed such disparaging humour to be permitted.
- re-define the relationship: if each group saw the humour as being critical of itself only, the humour may minimize differences and promote acceptance of a wider shared value or interest.

**APPENDIX D. ETHICS AND CONSENT FORMS**



**Tasmania**  
DEPARTMENT of  
HEALTH and  
HUMAN SERVICES

Human Research Ethics Committee  
(Tasmania) Network



UNIVERSITY  
OF TASMANIA

---

**Southern Tasmania Social Sciences  
Human Research Ethics Committee  
APPLICATION APPROVAL**

---

**To:** Assoc Professor Carey Denholm  
School of Education  
Box 66

**From:** Amanda McAully  
Executive Officer

**Date:** 2<sup>nd</sup> October 2002

**Subject:** **H6963 Sense of humour and teacher-student relationships in school-age children**

---

The Southern Tasmania Social Sciences Human Research Ethics Committee on **1st October 2002** recommended approval of this project.

You are required to report immediately anything which might affect ethical acceptance of the project, including:

- serious or unexpected adverse effects on participants;
- proposed changes in the protocol;
- unforeseen events that might affect continued ethical acceptability of the project.

You are also required to inform the Committee if the project is discontinued before the expected date of completion, giving the reasons for discontinuation.

**Please Note:**

Approval is subject to annual review. You will be asked to submit your first report on this project by **1<sup>st</sup> October 2003**.

Yours Sincerely

Amanda McAully

**Contact:** University of Tasmania  
Research and Development Office  
GPO Box 252-01  
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Tasmania

DEPARTMENT of  
EDUCATION, COMMUNITY *and*  
CULTURAL DEVELOPMENT

OFFICE for EDUCATIONAL REVIEW

4 May 1999

Contact: Clare Langridge (03) 62 337295

Ken Price  
Centre for Education  
University of Tasmania  
GPO Box 252/66  
HOBART 7001

Dear Ken

RE: DEVELOPMENTAL ASPECTS OF SENSE OF HUMOUR

I have been advised by the Departmental Consultative Research Committee that the above research study adheres to the guidelines established and that there is no objection to the study proceeding.

A copy of your final report should be forwarded to Clare Langridge, Acting Senior Educational Review Officer, Office for Educational Review, Department of Education, GPO Box 169B, Hobart 7001.

Please note that you have been given permission to proceed at a general level, and not at individual school level. You must still seek approval from the principals of the selected schools before you can proceed in those schools.

Yours sincerely

Alison Jacob  
DEPUTY SECRETARY  
(STRATEGIC DEVELOPMENT AND EVALUATION)

CC. Judy Bennett - A/District Superintendent (Bowen)  
Arnold Mc Shane – District Superintendent (Hartz)  
Judy Travers – District Superintendent (Derwent )



Tasmania

DEPARTMENT of EDUCATION

3 September 2002

Mr Ken Price  
79 Centauri Drive  
CAMBRIDGE TAS 7170

Dear Ken

**RE: SENSE OF HUMOUR AND TEACHER-STUDENT RELATIONSHIPS IN SCHOOL-AGE  
CHILDREN**

I have been advised by the Departmental Consultative Research Committee that the above research study adheres to the guidelines established and that there is no objection to the study proceeding.

Please note that you have been given permission to proceed at a general level, and not at individual school level. You must still seek approval from the principals of the selected schools before you can proceed in those schools.

A copy of your final report should be forwarded to the Director, Office for Educational Review, Department of Education, GPO Box 169, Hobart 7001 at your earliest convenience within six months of the completion of the research phase in Department of Education schools.

Yours sincerely

Alison Jacob  
DEPUTY SECRETARY  
(EDUCATION STRATEGIES)

**APPENDIX E. MSHSYA SENSE OF HUMOR INSTRUMENT,  
STUDENT VERSION**



Using humour to get through tough times is a good way to go through life.

I make up jokes or funny stories.

I am uncomfortable when everyone is cracking jokes.

My clever sayings amuse others.

I like a good joke.

I can actually have some control over a group by my uses of humour.

I don't like people who try to be funny.

I can make other people laugh.

Humour helps me to relax.

I can use humour to adapt to many situations.

People look to me to say amusing things.

Using humour to solve problems is silly.

Humour helps me cope.

I use humour to entertain my friends.

Calling someone a "comedian" is a real insult.

strongly agree	agree	disagree	strongly disagree

How would you describe your sense of humour?

Low 1	2	3	4	High 5

Thank you for helping us with this research. This form should be returned to the teacher who gave it to you.



**APPENDIX F. MSHSYA SENSE OF HUMOR INSTRUMENT, TEACHER VERSION**



Using humour to get through tough times is a good way to go through life.

I make up jokes or funny stories.

I am uncomfortable when everyone is cracking jokes.

My clever sayings amuse others.

I like a good joke.

I can actually have some control over a group by my uses of humour.

I don't like people who try to be funny.

I can make other people laugh.

Humour helps me to relax.

I can use humour to adapt to many situations.

People look to me to say amusing things.

Using humour to solve problems is silly.

Humour helps me cope.

I use humour to entertain my friends.

Calling someone a "comedian" is a real insult.

strongly agree	agree	disagree	strongly disagree

How would you describe your sense of humour?

Low 1	2	3	4	High 5

Thank you for helping us with this research. This form should be returned with the forms for your class.

APPENDIX G STUDENT PEER SURVEY

Sense of Humour in the Classroom: Class survey

This form is confidential. The names will be cut off before the pages are used.

Instructions:

Listed below are all the students in your class.

- First, find your own name. Then, draw a line right across the page, through all the boxes next to it.
- Next, choose a student you know. Next to their name, place a cross in the box which is the best description of their sense of humour. If you don't know them, or you are not sure, leave the spaces blank and move on to another student.
- Keep going until you have done this for all the students you know.
- When you have finished, hand this sheet to the teacher who gave it to you.

NAME	Has a <b>very</b> <b>good</b> sense of humour	Has a <b>good</b> sense of humour	Has a <b>poor</b> sense of humour	Has <b>no</b> sense of humour	Office use only
					01
					02
					03
					04
					05
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APPENDIX I. TAXONOMY OF HIGH SCHOOL TEACHER HUMOUR

Table 30. Twenty-item taxonomy of high school teacher humour<sup>1</sup>.

	Category	Description
Teacher Targeted Humour		
1	Self -disclosure- related	Teacher self-discloses to the class a humorous incident that is related to the course.
2	Self-disclosure- unrelated	Teacher self-discloses to the class a humorous incident that is not related to the course.
3	Self-disclosure- embarrassment	Teacher self-discloses an embarrassing situation.
4	Teacher role play- related	Teacher role-plays some character related to the subject in humorous fashion .
5	Teacher role play- unrelated	Teacher role-plays some character unrelated to the subject in humorous fashion .
6	Teacher self-deprecation	Teacher makes a humorous self-deprecating remark.
Student Targeted Humour		

7	Error identification	Teacher identifies a student error/mistake and jokes about it.
8	Friendly insult	Teacher mildly insults a student in a non-hostile manner.
9	Teasing	Teacher teases a student in a non-hostile manner.
10	Student Role Play	Teacher assigns a role-playing exercise that is humorous.
<b>Un-targeted Humor</b>		
11	Awkward comparison/incongruity	Teacher humorously points out some incongruity or makes an awkward comparison.
12	Joke telling	Teacher simply tells a joke
13	Punning	Teacher creates play on words
14	Tongue-in-cheek/facetious	Teacher engages in witty or whimsical interaction with a student or class using exaggerated or clumsy analogies.

External Source Humour		
	Historical incident	Teacher relates a humorous historical event.
	Third Party Humor- related	Teacher brings in an example of something humorous created by, or that happened to, some external source (e.g., cartoon) that is related to the subject.
	Third Party Humor -unrelated	Teacher brings in an example of something humorous created by, or that happened to, some external source (e.g., cartoon) that is not related to the subject.
	Natural phenomena humor	Teacher demonstrates natural phenomena that students find amusing (e.g., letting air out of a balloon and letting it fly all over the room to demonstrate air pressure)



Nonverbal Humour		
	Affect Display Humor	Teacher makes a funny face to the class or student
	Kinesic Humor	Teacher engages in some form of physical bodily humor.

<sup>1</sup> Neuliep, 1991, p.350.

APPENDIX J. TEACHER IDENTIFICATION OF STUDENT  
SENSE OF HUMOUR DIMENSIONS

Sense of humour in the classroom: Teacher's class survey

This form is confidential. The names will be cut off before the pages are used.

Instructions:

Listed below are all the students in your class. Please attempt to rate each student' sense of humour based on your knowledge of them. If you do not know the student well enough, leave their section blank. Thank you!

Name of Teacher:..... Gender: M/F

Student	Extent to which student uses humour as a coping mechanism	Extent to which student uses humour for social purposes	Extent to which student uses humour for deriving personal satisfaction	Extent to which student attempts to produce humour	Value which student appears to place on humour	OFFICE USE ONLY
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	<div><div></div><div></div><div></div><div></div><div></div></div> <div>Low High</div>	<div><div></div><div></div><div></div><div></div><div></div></div> <div>Low High</div>	<div><div></div><div></div><div></div><div></div><div></div></div> <div>Low High</div>	<div><div></div><div></div><div></div><div></div><div></div></div> <div>Low High</div>	<div><div></div><div></div><div></div><div></div><div></div></div> <div>Low High</div>	16

## APPENDIX K. MODIFICATIONS TO MSHS ITEMS

Table 31. MSHS items modified to distribute factor loadings

<i>MSHS #</i>	<i>Item</i>	<i>Factor I</i>	<i>Factor II</i>	<i>Factor III</i>	<i>Factor IV</i>
1	I can often crack people up with the things I say.	0.80			
12	People who tell jokes are a pain in the neck.			0.67	
23	Uses of wit or humour help me master difficult situations.		0.80		
4	I can say things in such a way as to make others laugh.	0.81			
22	Humour is a lousy coping mechanism.		0.51	0.56	
3	I 'm regarded as something of a wit by my friends.	0.80			
17	I appreciate those who generate humour.				0.79
2	Other people tell me that I say funny things.	0.78			
10	I can ease a tense situation by saying something funny.	0.75			
24	Coping by using humour is an elegant way of adapting.		0.72		
5	I sometimes think up jokes or funny stories.	0.74			
15	I'm uncomfortable when everyone is cracking jokes.			0.60	
6	My clever sayings amuse others.	0.80			
14	I like a good joke.				0.67
11	I can actually have some control over a group by my uses of humour.	0.75			
16	I dislike comics.			0.63	
7	I'm confident that I can make other people laugh.	0.80			
18	Uses of wit or humour help to put me at ease.				0.70
19	I can use wit to help adapt to many situations.	0.57			
8	People look to me to say amusing things.	0.80			
20	Trying to master situations through use of humour is really dumb.			0.56	
21	Humour helps me cope.		0.72		
9	I use humour to entertain my friends.	0.75			
13	Calling someone a "comedian" is a real insult.			0.67	

Table 32. Modified MSHS items with modifications to accommodate children's language

	<i>Modified MSHS Item</i>
1	I can often crack people up with the things I say.
2	People who tell jokes are a pain in the neck.
3	Uses of wit or humour help me master difficult situations.
4	I can say things in such a way as to make others laugh.
5	Humour is a poor way of coping.
6	I'm regarded as something of a wit by my friends.
7	I appreciate those who produce humour.
8	Other people tell me that I say funny things.
9	I can ease a tense situation by saying something funny.
10	Coping by using humour is a good way of fitting in.
11	I sometimes think up jokes or funny stories.
12	I'm uncomfortable when everyone is cracking jokes.
13	My clever sayings amuse others.
14	I like a good joke.
15	I can actually have some control over a group by my uses of humour.
16	I dislike people who try to be funny.
17	I'm confident that I can make other people laugh.
18	Uses of wit or humour help to put me at ease.
19	I can use wit to adapt to many situations.
20	People look to me to say amusing things.
21	Trying to master situations through use of humour is really silly.
22	Humour helps me cope.
23	I use humour to entertain my friends.
24	Calling someone a "comedian" is a real insult.

## APPENDIX L. MAPPING OF MSHSYA ITEMS WITH THOSE IN OTHER RELATED STUDIES

Table 33. Mapping of modified MSHS items to MSHSC (Dowling & Fain) items.

MSHSC Item No.	MSHSC Item (Dowling and Fain,1999)	Corresponding item on modified MSHS (Table 32)	MSHS number
1	I make up jokes or funny stories.	I sometimes think up jokes or funny stories.	11
2	I like a good joke.	I like a good joke.	14
3	Jokes and funny stories help me get through hard times.	Uses of wit or humour help me master difficult situations.	3
		Humour helps me cope.	22
		I can use wit to adapt to many situations	19
4	I can make people laugh.	I can say things in such a way as to make others laugh.	4
5	I like people who tell jokes.	I appreciate those who generate humour.	7
6	People tell me that I say funny things.	Other people tell me that I say funny things.	8
7	I use jokes and funny stories to make my friends laugh.	I use humour to entertain my friends.	23
		I'm confident that I can make other people laugh.	17
8	I like being around people who tell jokes and funny stories.	I appreciate those who produce humour	7
9	I can make problems better by saying something funny.	I can ease a tense situation by saying something funny.	9
		I can use wit to adapt to many situations	19
10	It bothers me when people tell jokes.	I dislike people who try to be funny.	16
11	I like to hear a funny story.	I like a good joke	14
12	I can make people laugh with the things I say.	I can say things in such a way as to make others laugh.	4
		I can often crack people up with the things I say	1
13	I like it when people share a joke or funny story with me.	I like a good joke	14
14	Jokes and funny stories are a good way to face tough times.	Humour helps me cope.	22
		Coping by using humour is a good way of fitting in.	10

MSHSC Item No.	MSHSC Item (Dowling and Fain,1999)	Corresponding item on modified MSHS (Table 32)	MSHS number
15	I like people who make me laugh.	I appreciate those who generate humour.	7
16	My jokes and funny stories make others laugh.	My clever sayings amuse others.	13
17	Jokes and funny stories help to relax me.	Uses of wit or humour help to put me at ease.	18
18	Using jokes and funny stories to get through tough times is a good way to go through life.	Coping by using humour is a good way of fitting in.	10
19	On a scale of 1 to 5, how would you describe your sense of humour?	Not applicable	

Table 34. Factor loadings of Pilot administration of MSHSYA instrument, with loadings of corresponding items from MSHS instrumentation administered to an adult sample

<i>MSHS<sup>1</sup></i>		<i>Corresponding MSHSYA Item<sup>2</sup></i>		<i>Factor</i>				
No.	Item	No.	Item	1	2	3	4	5
1	I can often crack people up with the things I say			0.80				
		17	I can make other people laugh.	0.66				
		1	I can often make people laugh with the things I say.	0.67				
2	Other people tell me that I say funny things			0.78				
		8	People tell me that I say funny things.	0.76				
		6	My friends think I am funny.	0.83				
		20	People look to me to say amusing things.	0.57				-0.40
3	I 'm regarded as something of a wit by my friends			0.80				
		20	People look to me to say amusing things.	0.57				-0.40
4	I can say things in such a way as to make others laugh			0.81				
		4	I can say things in a way which makes people laugh.	0.78				

5	I sometimes think up jokes or funny stories			0.74				
		11	I make up jokes or funny stories.	0.57				

6	My clever sayings amuse others			0.80				
		17	I can make other people laugh.		0.78			
		13	My clever sayings amuse others.	0.66				

7	I'm confident that I can make other people laugh			0.80				
		17	I can make other people laugh.	0.66				

8	People look to me to say amusing things			0.80				
		20	People look to me to say amusing things.	0.57				-0.40

9	I use humour to entertain my friends			0.75				
		23	I use humour to entertain my friends.	0.53			0.39	

10	I can ease a tense situation by saying something funny			0.75				
		9	I can make problems better by saying something funny.		0.44		0.48	

11	I can actually have some control over a group by my uses of humour			0.75				
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		15	I can actually have some control over a group by my uses of humour.	0.57				
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12	People who tell jokes are a pain in the neck					0.67		
		16	I don't like people who try to be funny.			0.64		
		2	People who tell jokes are annoying.			0.65		

13	Calling someone a "comedian" is a real insult					0.67		
		24	Calling someone a "comedian" is a real insult.			0.40		0.54

14	I like a good joke						0.67	
		14	I like a good joke.				0.76	

15	I'm uncomfortable when everyone is cracking jokes					0.60		
15		12	I am uncomfortable when everyone is cracking jokes.			0.72		

16	I dislike comics					0.63		
		7	I like people who tell jokes.				0.76	
		16	I don't like people who try to be funny.			0.64		
		2	People who tell jokes are annoying.			0.65		

17	I appreciate those who generate humour						0.79	
		7	I like people who tell jokes.				0.76	

18	Uses of wit or humour help to put me at ease						0.70	
		18	Humour helps me to relax.		0.69			

19	I can use wit to help adapt to many situations			0.57				
		19	I can use humour to adapt to many situations.		0.65			

20	Trying to master situations through use of humour is really dumb					0.56		
		21	Using humour to solve problems is silly.			0.58		

21	Humour helps me cope				0.72			
		22	Humour helps me cope.		0.80			
		19	I can use humour to adapt to many situations.		0.65			
		3	Jokes and funny stories get me through hard times.		0.72			

22	Humour is a lousy coping mechanism				0.51	0.56		
		5	Humour is a poor way of facing problems.		0.41			

23	Uses of wit or humour help me master difficult situations				0.80			
		3	Jokes and funny stories get me through hard times.		0.72			
		19	I can use humour to adapt to many situations.		0.65			

24	Coping by using humour is an elegant way of adapting				0.72			
		10	Using humour to get through tough times is a good way to go through life.		0.71			

<sup>1</sup> MSHS item numbers and loadings from Thorson, Powell, Sarmany-Schuller & Hampes (1997). *N*= 622, ages 17 to 92 years, *M* = 43.3 years, *SD* = 26.9 years. Loadings shown are only those exceeding .40 in magnitude.

Table 35. Factor loadings of Pilot administration of MSHSYA instrument, with loadings of corresponding items from MSHS instrumentation administered to a young adult sample.

MSHS		Corresponding MSHSYA		Factor				
	Item		Item	1	2	3	4	5
1	I can often crack people up with the things I say			0.70				
1		17	I can make other people laugh.	0.66				
1		1	I can often make people laugh with the things I say.	0.67				
2	Other people tell me that I say funny things			0.72				
2		8	People tell me that I say funny things.	0.76				
2		6	My friends think I am funny.	0.83				
2		20	People look to me to say amusing things.	0.57				-0.40
3	I 'm regarded as something of a wit by my friends			0.69				
3		20	People look to me to say amusing things.	0.57				-0.40
4	I can say things in such a way as to make others laugh			0.78				
4		4	I can say things in a way which makes people laugh.	0.78				

5	I sometimes think up jokes or funny stories			0.71				
5		11	I make up jokes or funny stories.	0.57				

6	My clever sayings amuse others			0.78				
6		17	I can make other people laugh.	0.66				
6		13	My clever sayings amuse others.	0.69				

7	I'm confident that I can make other people laugh			0.79				
7		17	I can make other people laugh.	0.66				

8	People look to me to say amusing things			0.79				
8		20	People look to me to say amusing things.	0.57				-0.40

9	I use humour to entertain my friends			0.74				
9		23	I use humour to entertain my friends.	0.53			0.39	

10	I can ease a tense situation by saying something funny			0.67				
10		9	I can make problems better by saying something funny.		0.44		0.48	

11	I can actually have some control over a group by my uses of humour			0.76				
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11		15	I can actually have some control over a group by my uses of humour.	0.57				
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12	People who tell jokes are a pain in the neck					0.59		
12		16	I don't like people who try to be funny.			0.64		
12		2	People who tell jokes are annoying.			0.65		

13	Calling someone a "comedian" is a real insult					0.57		
13		24	Calling someone a "comedian" is a real insult.			0.40		0.54

14	I like a good joke					0.54		
14		14	I like a good joke.				0.76	

15	I'm uncomfortable when everyone is cracking jokes					0.53		
15		12	I am uncomfortable when everyone is cracking jokes.			0.72		

16	I dislike comics					0.69		
16		7	I like people who tell jokes.				0.76	
16		16	I don't like people who try to be funny.			0.64		
16		2	People who tell jokes are annoying.			0.65		

17	I appreciate those who generate humour						0.65	
17		7	I like people who tell jokes.				0.76	

18	Uses of wit or humour help to put me at ease						0.73	
18		18	Humour helps me to relax.		0.69			

19	I can use wit to help adapt to many situations			0.54				
19		19	I can use humour to adapt to many situations.		0.65			

20	Trying to master situations through use of humour is really dumb				0.63			
20		21	Using humour to solve problems is silly.			0.58		

21	Humour helps me cope				0.55			
21		22	Humour helps me cope.		0.80			
21		19	I can use humour to adapt to many situations.		0.65			

21		3	Jokes and funny stories get me through hard times.		0.72			
22	Humour is a lousy coping mechanism				0.58			
22		5	Humour is a poor way of facing problems.		0.41			
23	Uses of wit or humour help me master difficult situations				0.71			
23		3	Jokes and funny stories get me through hard times.		0.72			
23		19	I can use humour to adapt to many situations.		0.65			
24	Coping by using humour is an elegant way of adapting				0.68			
24		10	Using humour to get through tough times is a good way to go through life.		0.71			

<sup>1</sup> MSHS loadings from Thorson, Powell, Sarmany-Schuller & Hampes (1997, p.608). *N*= 199, ages 17 to 21 years, *M*=19.5 years, *SD* = 1.0 years. Loadings shown are only those exceeding .40 in magnitude.



Table 36. Factor loadings of Pilot administration of first 24 items of MSHSYA instrument, with loadings of corresponding items from MSHS for Children instrument<sup>1</sup>

<i>MSHS for Children Item</i>	<i>MSHSYA Item</i>		<i>Factor</i>				
Item	No.	Item	1	2	3	4	5
I can make other people laugh			.80				
	13	My clever sayings amuse others.	.69				
My jokes and funny stories make others laugh			.80				
	13	My clever sayings amuse others.	.69				
	6	My friends think I am funny.	.83				
People tell me that I say funny things.			.70				
	6	My friends think I am funny.	.83				
	8	People tell me that I say funny things.	.76				
	20	People look to me to say amusing things.	.57				-.40
I use jokes and funny stories to make my friends laugh.			.67				
	23	I use humour to entertain my friends.	.53			.39	
I can make people laugh with the things I say.			.65				

	1	I can often make people laugh with the things I say.	.67				
	17	I can make other people laugh.	.66				

I make up jokes or funny stories.			.64				
	11	I make up jokes or funny stories.	.57				

I like a good joke.				.70			
	14	I like a good joke.				.76	

Jokes and funny stories are a good way to face tough times				.66			
	3	Jokes and funny stories get me through hard times.		.72			
	19	I can use humour to adapt to many situations.		.65			
	22	Humour helps me cope.		.80			

Jokes and funny stories help to relax me.				.62			
	18	Humour helps me to relax.		.69			

I like people who tell jokes.				.59			
	7	I like people who tell jokes.				.76	
	16	I don't like people who try to be funny.			.64		

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Using jokes and funny stories to get through tough times is a good way to go through life				.58			
	10	Using humour to get through tough times is a good way to go through life.		.71			

Jokes and funny stories help me get through tough times				.66			
	3	Jokes and funny stories get me through hard times.		.72			
	5	Humour is a poor way of facing problems.		.41			
	10	Using humour to get through tough times is a good way to go through life.		.71			

I can make problems better by saying something funny.				.50			
	9	I can make problems better by saying something funny.		.44		.48	
	19	I can use humour to adapt to many situations.		.65			

It bothers me when people tell jokes.					.71		
	2	People who tell jokes are annoying.			.65		
	12	I am uncomfortable when everyone is cracking jokes.			.72		

I like people who make me laugh.					.51		
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	2	People who tell jokes are annoying.			.65		
	7	I like people who tell jokes.					
	16	I don't like people who try to be funny.			.64		

N/A	15	I can actually have some control over a group by my uses of humour.	.57				
N/A	21	Using humour to solve problems is silly.			.58		
N/A	24	Calling someone a "comedian" is a real insult.			.40		.54

<sup>1</sup> Dowling & Fain (1999). (Loadings shown are only those exceeding .40 in magnitude)

## **APPENDIX M: MEASURING DIFFERENCES AND SIMILARITIES IN SENSE OF HUMOUR PROFILE**

To make use of a multi-dimensional humour profile of each student or teacher in graphical form, some method of measuring similarity needed to be developed. Research related to comparison of profiles revealed a range of approaches taken in various disciplines, each with strengths and weaknesses.

However, some requirements were developed to describe how a useful measure of “similarity of profile” should behave.

1. Where two people have profiles that are identical in shape but different in size, the measure should show them as very similar (difference = 0). Size may reflect greater or lesser scores overall, but this may be an artefact of individuals tending to rank optimistically or pessimistically: of more interest is the variation in shape. This requirement is not met by the Euclidean distance measures often employed for shape comparison.
2. Comparisons of shape must treat axes as important: that is, if two individuals have the same shape profile but one is rotated in relation to the other, they are different and the measure should reflect that.
3. Measures of similarity should reflect the subjective views of the general public on similarity of shape.

With this in mind, a measure of similarity (a Profile Similarity Index) was developed, based on the following process:

Comparison of two profiles involves

1. Matching up the corresponding scores on each of the axes (which are proportional to the corresponding Student Scores on each Factor)
2. Selecting one shape as the “reference” shape. Take each axis score for the second shape and expressing it as a fraction of the corresponding reference shape score. This gives a measure of the relative size of the scores on one axis.
3. Collecting the fractions obtained in step 2 and finding the standard deviation within them.

This gives a measure of similarity which can be referred to as the Profile Similarity Index (PSI). The PSI gives a measure of how much variation there is between the fractions, which conceptually tells us how close one shape is to being a scaled version of the other. If they are all the same (for example, if all the values on one shape are twice the other) the standard deviation would be zero. A value of zero means the shapes are mathematically similar (i.e. one is a scaled-up version of the other), while larger values mean shapes are increasingly different.

To verify that this gave measures that corresponded with subjective ideas on similarity, a range of 8 shapes was produced on paper, along with a reference shape. Four of these shapes are shown in Figure 8.

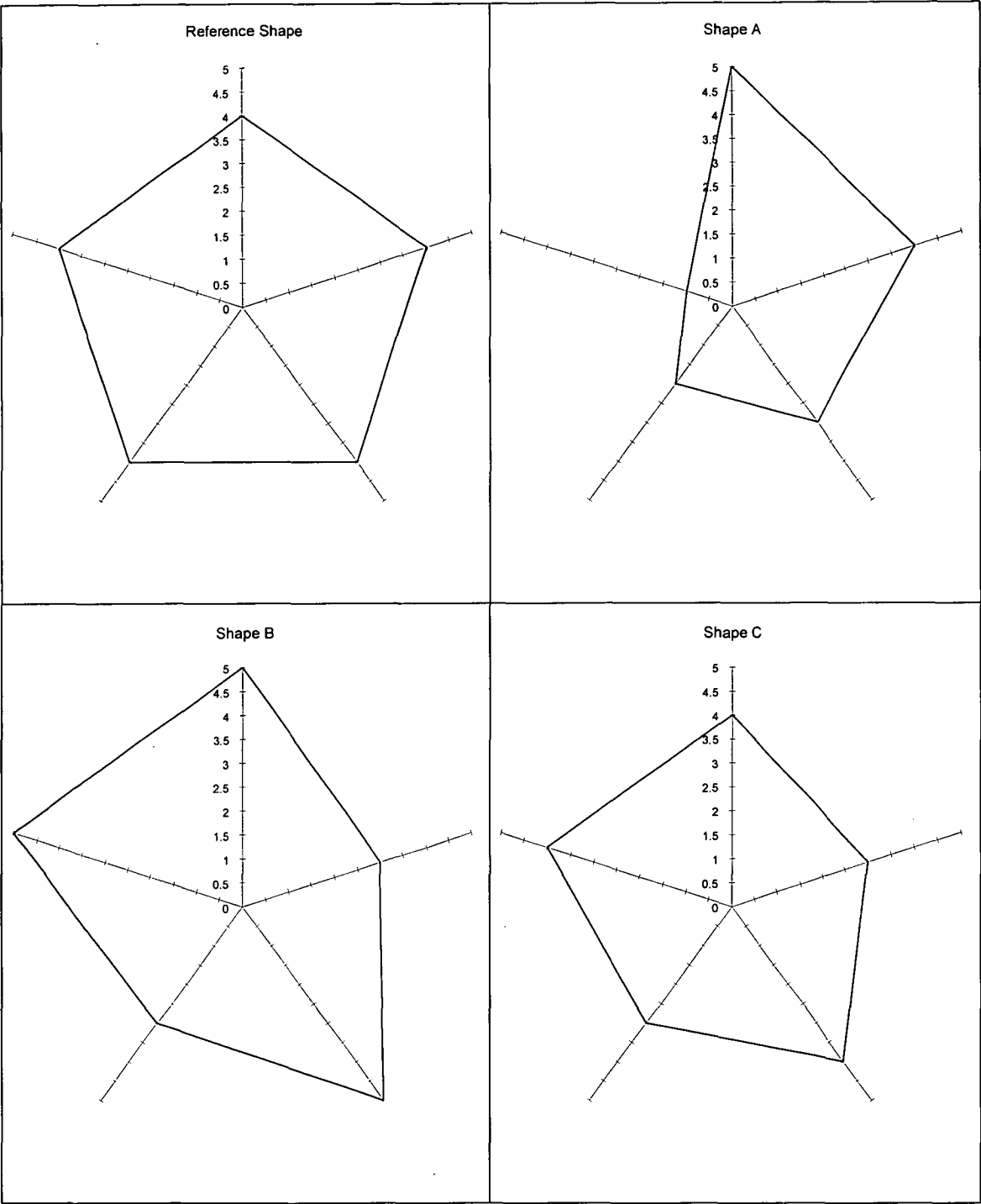


Figure 8. Shapes used to verify similarity measure (examples).

A convenience sample of 15 adults (9 female, 6 male, ages from 24 to 44) was asked individually to arrange the shapes in an order from most similar to the reference shape to most different. In every case but one, the ranking by individuals was identical to the order of the

similarity index, and in the exception case the order of only two shapes differed. This process provides support for the validity of the Profile Similarity Index as an indicator of the similarity of shapes or profile.

This approach was proposed as one way of determining similarity of two sense of humour profiles, between individuals. However, as reported in the main body of this dissertation, measuring similarity of two profiles was not found to be useful in this case.